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THE SOCIETY FOR THE PROMOTION OF HELLENIC STUDIES

SUPPLEMENTARY PAPER No. 4

EXCAVATIONS

AT

PHYLAKOPI IN MELOS

CONDUCTED BY THE BRITISH SCHOOL AT ATHENS

PUBLISHED BY THE COUNCIL, AND SOLD AT THEIR HOUSE BY

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DESCRIBED BY T. D. ATKINSON, R. C. BOSANQUET, C. C. EDGAR, A. J. EVANS, D. G. HOGARTH, D. MACKENZIE, C. SMITH, AND F. B. WELCH

With 41 *Plates, and* 193 *Illustrations in the Text*

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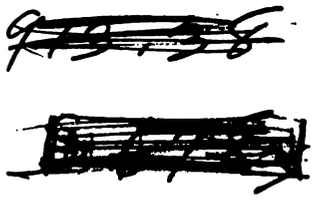

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PREFACE

In accordance with a proposal of the Committee of the British School at Athens, the Council of the Society for the Promotion of Hellenic Studies, at a meeting held on Dec. 20, 1900, authorised the publication of a Supplementary Paper embodying the results of the Excavations at Phylakopi. For this purpose a special Editorial Committee was appointed, consisting of Messrs. R. C. Bosanquet, E. A. Gardner, and G. F. Hill.

The process of preparing for publication the masses of pottery and other objects brought from Melos to Athens has of necessity been a slow one. It was begun by Mr. C. C. Edgar in 1897, and has been carried on since 1899 by Mr. Bosanquet, with occasional help from Mr. F. B. Welch and other members of the British School. The majority of the drawings (excluding those in Chapter II. which are all by Mr. Atkinson) are the work of Mr. Halvor Bagge; others, including the coloured copy of the Flying-fish picture, have been made by Mr. E. Gilliéron, and a few by Mr. Theodore Fyfe.

The difficulty of communication between contributors living in three and sometimes four different countries, may be held to excuse certain inconsistencies in nomenclature. No contributor is to be regarded as responsible for any statement not standing over his own signature.

The Editorial Committee desire to express their acknowledgments to Mr. P. CAVVADIAS, Ephor-General of Antiquities, and to Messrs. V. STAES and CH. TSOUNTAS, Ephors of the National Museum at Athens, who have done everything in their power to facilitate the preparation of this volume; to Messrs. D. G. HOGARTH and CECIL SMITH, who, in addition to contributing the chapters signed by them, have in other ways rendered valuable assistance; and also to Mr. ARTHUR EVANS, who, though he took no part in the excavations, has contributed a note on the Pottery Marks in the light of the Cretan evidence.

THE EDITORIAL COMMITTEE.

Feb. 1904.

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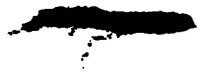


INTRODUCTION.

THE narrative of the School undertaking in Melos (in 1896) which led to the excavation of Phylakopi has already appeared in the Annual of the British School; all that it is necessary to recall here may be restated in a few words.

The discovery of the marble Poseidon, now in the National Museum at Athens, had led us to believe that a systematic excavation of Klima (a V-shaped patch of garden land hard by the sea, below the classical town) might be fruitful in results of similar importance. It was, morever, a condition imposed by the Greek Government that that site should be selected for the first excavation. In this, the *point d'appui* of the Melian campaign, we were disappointed; the excavations we made seemed to prove that the site was unoccupied, and perhaps even was covered by the sea, until the late Roman period.

We next proceeded up the hill to the site near the village of Trypete, which was already well known as covering the remains of the classical town. The whole of this ground is under cultivation, and lying as it does mostly on the side of a terraced slope, offers in most parts only a meagre depth of soil to the excavator's spade. Moreover, ever since the discovery of the famous Aphrodite, this part of Melos has been the happy hunting ground for casual excavators: a fact which we were soon able to verify. Our efforts thus were necessarily limited; the season was spent partly in searching for tombs, partly in the opening up of a late house with a fine mosaic, and in the identification of certain topographical features, including the probable agora and stadion.

Such time as could be spared from excavation was usually occupied, especially by Mr. Bosanquet and Mr. Mackenzie, in exploring the rest of the island and examining likely sites for excavation. Chief among these was a site close to the village of Phylakopi on the north-east coast, which Ross (*Inselreisen* iii. 13) had heard of in 1843 but had not visited, and of which Weil and Dümmler in *Ath. Mitth.* 1876, p. 246, and 1886, p. 26 give an account. Both Ross and Dümmler call the site *'στὸν Κάπρον*: but this is apparently a misconception, the real name being *'στὸν Καπνόν*, because of the white spray that blows over it when the wind is strong from the north.[1] We have called it Phylakopi after the village which stands not far away.[2] Some antiquities which we had seen offered for sale in Athens were said to come from this site, and seemed to promise interesting results from an

[1] Edgar in *B.S.A.* v. p. 15.

[2] Weil also called it *Φυλακωπή*, but referred to *'στὸ Κάτρο* as 'eine Viertelstunde weiter südwärts.'

examination of the ground. Dümmler had carefully described the site, which consisted of a necropolis of the Mycenaean period, pre-Mycenaean graves, and on the edge of a cliff partly eaten away by the sea a prehistoric settlement within strong walls of cyclopean masonry. The necropolis, as he states, was completely cleared out at the time of the war of independence; the prehistoric tombs in the tufa hill south-west of the town had equally been excavated, but some at any rate more recently, as the traces of excavation were still fresh when we arrived. The town itself had naturally not escaped, but, being a bigger job, had not been seriously undertaken by the excavators, who had contented themselves with a hole here and there, which had already been sunk when Dümmler visited the site.

The main portion of the town covered the long gradual slope downwards to the east; apart from the fragments of pottery which littered the surface, the traces of ancient occupation were not very noticeable in this portion, consisting of stones which might be observed projecting here and there from the soil, but showing occasional traces of regular arrangement. The more prominent part lay to the west at the highest point of the slope, where unluckily, owing to the proximity of a soft tufa stratum, the sea had in course of time eroded a considerable slice of cliff and city. Here on the west and south the strong walls of polygonal masonry were visible on their outer face, standing uncovered on this side to a height of some metres above the surface of the soil. Within the walls, a group of buildings remained still undestroyed by the sea, occupying a width varying from 10 metres at the western extremity to about 30 at the eastern end, at which point the edge of the cliff takes a sharp trend in a northerly direction. It was in this block that we first broke ground on May 7, 1896.

During the first season, owing to the fact that we were simultaneously engaged in other parts of the island and that I was obliged to return to England at the end of May, it was impossible to do more than partly clear this quarter, and make preparations for the regular organisation of our future work; but sufficient was disclosed to show that the mound covered the remains of a prehistoric fortress of great size and importance. In one particular respect, moreover, it promised results of especial interest. At that time, with the exception of Hissarlik, no site had yet been excavated which presented anything like a satisfactory conspectus of the relations in which the primitive 'island' civilisation, the pre-Mycenaean, and the Mycenaean stood to each other. Here was a large site which had evidently been continuously populous[1] from the earliest times, which was abandoned during the Mycenaean age, and which between these two limits exhibited in regular stratification the remains of the civilisations which had successively occupied it.

The excavation of the site of Phylakopi occupied three further seasons; at the close of the fourth season (1899) it was decided that the

[1] In evidence of this Mr. Edgar remarks (*B.S.A.* v. p. 14) that 'an average day's work yielded between ten and twenty thousand fragments.'

undertaking should for the present at any rate cease, in order to enable the School to commence operations in Crete. Although a certain proportion of the site is still to explore, it is probable that the most important part of the city has been completely cleared, and while it is to be hoped that the whole may some day be finished, there is no reason why the results recorded in this volume should not be regarded (so far as they go) as final.

During the twelve days' excavation of the first season, I had only time to start the work and to visit it again at the end, Mr. Duncan Mackenzie being placed in charge; after the close, Messrs. Charles Clark, the School architect, and R. C. Bosanquet revisited the site in order to make the plans and photographs.

In 1897 I superintended the excavation during most of the time, assisted by Messrs. Mackenzie, Edgar, and Clark, Mr. Mackenzie as before having immediate supervision of the workmen. Messrs. Crowfoot and West were also present during part of the time.

In 1898 Mr. Hogarth directed the work, and had the co-operation of Mr. Mackenzie during the entire time, as well as that of Mr. Edgar and Mr. E. B. Hoare, the architect of the year.

In 1899 Mr. Mackenzie was in independent command, with Mr. Edgar and Mr. T. D. Atkinson (architect) as his colleagues; Mr. Hogarth paying two visits to the work, one in the middle and one towards the close of the excavation.

It will thus be seen that notwithstanding the change in the Directorate of the School, the element of continuity has been permanent throughout in the person of Mr. Mackenzie, who has been present from beginning to end, and whose notebooks provide the principal record of the work. Mr. Edgar was not at Phylakopi during the first season, but during the remaining seasons was present there during most of the time, sorting and cataloguing the pottery.

CECIL SMITH.

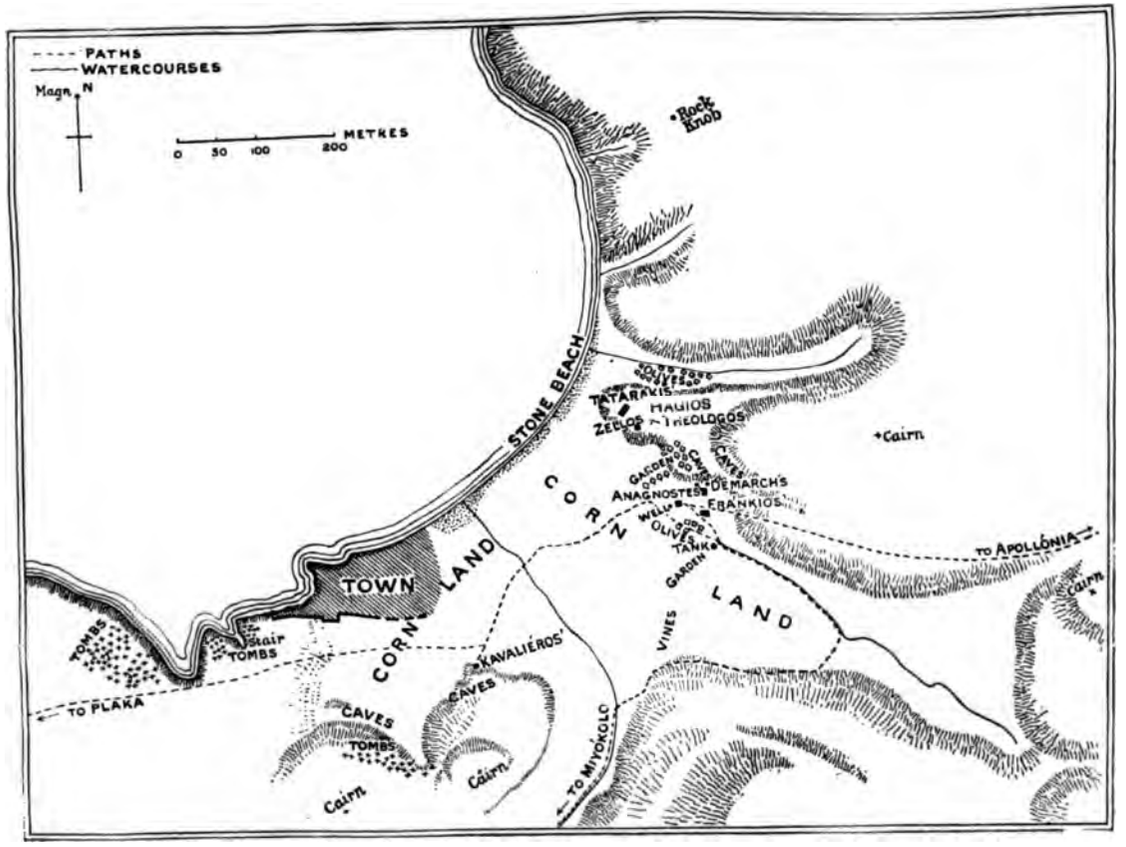


FIG. 1.—NEIGHBOURHOOD OF THE SITE.

CHAPTER I.

THE EXCAVATION.[1]

§ 1.—*Preliminary Soundings and the Wall of Fortification.*

THE work was opened on the seaward slope of a conical mound which used to be the single conspicuous landmark on the site. In this mound a short length of primitive masonry had been revealed, perhaps after an earth-slip following on wave erosion. This proved to be a portion of the inner face of the great fortification wall, exposed at a point very near its south-western angle. Tops of other walls also appeared to the north and east.

Mr. Mackenzie began with his small gang, on May 7th, 1896, to make a sinking into the *talus* some little distance back from the cliff edge, and found himself at once in a small chamber (B 5 : 18),[2] whose walls continued downwards. The rock was reached at last at nearly four metres depth. Painted ware was obtained down to two metres, and only scanty and indistinctive sherds below; but the lowest layer of deposit, underlying some of the walls, was found to be largely composed of obsidian cores and flakes, evidently the refuse of a prehistoric factory. The occurrence of a cross wall, greatly ruined and resting actually on rock, warned the explorers thus early that two periods of construction at least had left their traces on the site.

Work on this seaward slope was continued, thereafter, on a system of removing the earth in layers, and several rooms were excavated in what we now know to be the south-west angle of the town; but not all completely in this season, the object of the exploration being to gather general evidence of the character and worth of the site. To obtain obsidian the northern part of B 5 was probed to the rock; to obtain pottery, the chambers in A 5 and B 5 were opened out. Only one fairly complete vase with any decoration was found, and that in the first chamber opened (B 5 : 18); and though this was of fully developed Mycenaean character, it lay within a foot of the rock. But levels were little to be relied on at this point, since not only had the breaking away

[1] [In compiling this chapter I have made great use of Mr. D. Mackenzie's notebooks, which contain the only continuous record of the excavation of Phylakopi. This chapter has also been revised by him, but he is not to be held responsible for the views expressed in it, especially those regarding the question of the eastward continuation of the fortification, the excavation of which I personally directed.]

[2] Where not otherwise specified the numbering refers to the Plan, Plate II.

of the cliff led to much sliding and displacement of earth, but also, as afterwards became clear, the building of the Great Wall at a later period had caused radical disturbance of earlier adjacent deposits. Furthermore, just here modern incisions had been made by native searchers for obsidian flakes. But there was evidence sufficient to show that (1) the obsidian layer was anterior to the upper houses hereabouts; (2) the stratum immediately above that layer contained, not Mycenaean, but pre- or proto-Mycenaean painted ware; (3) above that again lay a thick stratum of typical Mycenaean remains; and (4) no remains later than these last existed on the site.

These points established, Mr. Mackenzie set to work to find the outer face and the direction of the great fortification wall. Its total thickness was seen to be much greater than had been supposed, and within it certain doorless chambers, at first thought to be living rooms, were now seen to have formed a structural part of the fortification itself (*v. infra* p. 31, *B.S.A.* iii. p. 14).

The whole of the rest of this short season and half the season succeeding were devoted to following up and clearing the outward face of this Great Wall from its abutment on the cliff edge to the eastward limit of the property over which the right of excavation had been conceded to the School.

The ground to southward was also probed for some distance and found uniformly to be high-lying rock without any trace of building upon it and thinly covered with dusty soil. But in one place, twenty metres south of the main bastion, occurred an artificial cutting, which at first was suspected of being the approach to a large tomb. It proved eventually to be a rectangular pit, 16 metres long and 2·60 deep, cut with straight sides and level floor. A layer of very hard earth covered it; and below that lay a disordered mass of potsherds, obviously hidden with intention. Mr. Cecil Smith, who opened the pit in 1897, was of opinion (*B.S.A.* iii. p. 20) that it was an unfinished tomb passage used later as a refuse receptacle; but in view of certain facts observed later in Crete, both at Cnossos and Zakro (*B.S.A.* vi. p. 79, vii. p. 124, and *J.H.S.* xxi. p. 79), I should suggest that, superfluous as it may seem, this trench was really cut to hold the pottery found in it.

Like the Cnossos pits found to be filled with Kamáres pots and sherds, in the vicinity of early buildings re-used by later inhabitants, this trench at Phylakopi seems to me to have contained the result of a clearance of discarded vessels. But from what quarter of the town they came, and why they were not thrown into the convenient sea, it is hard to say. It is impossible to find, in mere tidiness or revenge of war, an adequate motive for this careful concealment of potsherds in a primitive age. One looks instinctively to religion or superstitious fear, and recalls that in the Apolline Precinct at Naukratis Mr. Petrie found a trench cut to contain broken votive vessels of an early period. In the Dictaean Cavern abundant evidence was collected to show that offerings to the god were ordinarily dedicated in clay receptacles.

It seems highly probable, therefore, that the sherds in the Cnossian pits are remains of things originally dedicated at public or private shrines, hidden with superstitious care either when grown so numerous as to encumber the shrine, or after the introduction of a new régime; and equally probable that the Phylakopi pit contained the *disjecta membra* of vessels originally dedicated in a similar shrine or shrines. Anthropologists can quote many examples of a fear lest things dedicated to gods or for the use of the spirits of deified ancestors should fall into profane hands or remain available for the use of a ghost, which would amply justify the pains here taken to conceal the sherds.

The outer face of the Great Wall was exposed to a depth of two metres in 1896 as far as the eastern limit of D, and in 1897 the clearing of it was

FIG. 2.—EXTERNAL FACE OF GREAT WALL, SHOWING REVETMENT ON THE RIGHT AND BASTION IN THE DISTANCE.

completed down to the rock. The *débris* removed in this process was shown by pottery and stone fragments to be all of Mycenaean character (with one or two accidental ingredients of later date) until the last stratum above the bed-rock was reached. That stratum, forming the bed of the ditch, between the foundation courses of the fortification and a low revetment on the opposite bank (*v. infra*, p. 33 and Fig. 2), was characterised by earlier sherds, among which occurred many fragments of painted stucco. Deposits of burnt stuff also appeared in this stratum, which extended at one point (the bastion in the west of B 5) under the foundations. This part of the fortification, therefore, is certainly posterior to the period of that stratum; and, though it is probably an addition, it seems, from other indications noted on the sea-face, that no

part of the Great Wall is of a period earlier than the Second City. If the low retaining wall, that faces it, was really built to define an outer ditch (rendered perhaps necessary here by the absence of such precipitous slopes as strengthen the walls of Mycenae or Hissarlik) it will pertain to the same period as the Wall. A thin layer of *débris* survived in the bed of the ditch, but we must suppose that the overlying deposit all belongs to a much later period, that namely of the decadence of the town. So long as the Great Wall served a serious purpose of defence, its outer ditch would not have been suffered to be choked by rubbish thrown out of the town.

The character and plan of the Wall itself are discussed below by Mr. Atkinson and do not concern us here. No single object worth record, except perhaps a piece of lead—rare metal on this site—was found either in its intra-mural spaces or outside it. It remains only to record the operations undertaken subsequently (in 1898) for determining its direction and character

FIG. 3.—THE SITE FROM N.E. BEACH OF BOULDERS IN THE FOREGROUND.

eastward of the farthest point opened in 1897. These operations were entirely inconclusive, partly owing to local circumstances. A precipitous *talus*, sloping into cultivated fields, defined the limit of the site to eastward, but no ridge here stood up above the general level of the plateau, as was the case on the west. On the brink of this *talus* nothing in the form of a really massive fortification could be traced. The inner face of a well built wall was, indeed, revealed at various points, approximately in a line with the inner face of the fortification at the west end: but in J 5 this ended in an oblong chamber which, if a wall of fortification be really in question, must have been the inner outline of a terminal bastion, built where the rampart returned northward to the sea. The sherds found in abundance near the face of this line of wall were all of the latest period: but we did not clear to a greater depth than one metre. Trenches, however, sunk in the slope of the

talus south of this line as far down as our rights extended, revealed everywhere the faces of small walls like retaining revetments, with cross walls in certain places. These were of poor character, often resting merely on earth. No continuous outward face could be hit upon anywhere, such as was so easily found farther west. We were, however, much hampered for space in which to dig. The prohibition against either throwing earth or allowing stones to roll into the cultivation below made it impossible to follow up the line of wall cleared to westward, and we soon found ourselves at the foot of the *talus* and the end of our territory, but not at any clear limit of the city. Though, therefore, the inward face of a fortification had seemed to emerge clearly enough, the outer face (the crucial test) was never found. If these remains in the *talus* are of a fortification, its character is meaner than that of the Great Wall to west.

Perhaps this lower eastern half of the town stood less in need of strong

4.—The S.W. Angle and Bastion of the Great Wall, above the Eroded Bay.

mural defence. This supposition can only be justified on the theory that the low fields to south and east are ancient sea lagoons, dried through the gradual creation of the barrier beach of boulders which now fends off the sea (Fig. 3). The argument which I used in the Preliminary Report (*B.S.A.* iv. pp. 7, 8), that only on that theory could a sufficient harbour be found for this obsidian-exporting centre in early times, is a strong one, and would be conclusive if so much sea-erosion had not taken place (*e.g.* on the west of the town) that the original coast line cannot now be known (Fig. 4). The matter cannot at present be lifted out of the region of conjecture. We can only say that we failed satisfactorily to settle the fortification question on the south-east and east, and that it is only by further exploration that it can be settled.

§ 2.—*The South-Western Corner.*

As soon as the inner face of the south-western angle of the Great Wall was determined, it was seen that only a very narrow strip of the inner town had survived the erosion of the sea at that point. The waves, driven on shore by the prevailing north-westerly winds (of whose persistent violence in this locality we had subsequently all too much experience), have at this point eaten out a deep bay, carrying away all the western wall of the city except some ten metres of its southern end, and also all but that strip of constructions, which, nestling under the southern wall, widens from five metres at the west, to some twenty metres farther east, as the cliff curves definitely away to northward (Fig. 5).

In this horn-like remnant of the south-west quarter of the city, Mr. Mackenzie had made soundings in 1896 with the results already described.

FIG. 5.—THE ERODED S.W. CORNER OF THE TOWN FROM WITHIN.

After the outer face of the Fortification had been cleared in the following year, Mr. Cecil Smith turned his attention to such chambers as had not been completely cleared within.

The passage communicating from the town with the postern at the foot of the intra-mural staircase (*infra*, p. 33, Figs. 16, 17) was first opened out (D 5). It had ere this become clear that this stairway was a means of access from within to the crown of the rampart, not an exit to the open country; but the outward profile of the enclosing bastion was never clearly determined owing to its ruinous condition.[1] The whole fortification makes a marked outward sally at this point, and possibly rose into a low but massive tower.

When the space in the extreme south-west angle (A B 5) came to be wholly dug out to rock, house walls of a more primitive epoch and better construction than the unsquared structures, which appear nearest the surface

[1] Mr. Mackenzie dissents here. See p. 257 *infra*.

here, were made evident. The trend of some of these takes them *under* the Great Wall. Traces of a pinkish plaster floor were found laid upon an inch or two of earth above the rock, and below the foundations of the Second Period, which rest on about a metre of earth; and where there was no flooring a deposit of painted sherds, similar to those found at the bottom of the outer ditch, took its place. These fix the earliest remains at this point to the First City.

Farther east in this region these early walls only reappeared at one point (middle of C 5); but in a small chamber on the cliff edge, just north-west of the room first excavated in 1896, a layer of obsidian refuse about thirty centimetres thick was again laid bare. This continues under the upper walls and undoubtedly belongs to the earlier settlement. At no other point of the city were such deposits of obsidian observed in subsequent seasons, and it would appear therefore that the workshops lay all in the western quarter, near the sea, and perhaps the original harbour. Probably most of this quarter has now vanished with the falling away of the cliff.

In the upper strata of this region were found fragments of a marble pavement, polished on one face, about a metre above the rock. This would seem to belong to the Second City. Also a terracotta boat (at nearly two metres above rock) described below among the minor antiquities of clay (Chap. VII., p. 206); and, between two stones wedged into a Mycenaean house wall, only ·50 from the surface, a bronze idol (pp. 186 f., Pl. **XXXVII.**), and at the same depth a bronze arrowhead.

Eastward of this horn, from the point at which the cliff definitely trends north, the bed-rock dips into a deep hollow which runs all the length of the sloping plateau, making the southern or landward half of the site much more laborious to dig than its northern or seaward parts. The deposit, brought down from higher ground on to the remains in this hollow, is very deep, full of stones, and on the surface caked by the effect of sea spray. The soundings made in it in the last days of the season of 1897 led to no definite result, beyond establishing the fact that constructions are to be found at a depth of one to two metres under the surface, and that they continue downwards to nearly four metres depth. As no later opportunity was found of resuming excavations here (the expense being much greater in proportion to results than on other parts of the site), no more need be said of this hollow than that it is apparently divided west and north from the higher ground by streets of the later period, carried along the top of high retaining walls, but not by walls of demarcation or fortification.

§ 3.—*The North-Western Terrace* (E F 2, 3).

The close of the preceding section will have indicated the main reason why the excavation came to be transferred henceforward to the far side of the hillock, instead of being pushed regularly inwards and northwards from the Fortification. Since it was felt to be doubtful whether funds would ever be forthcoming in sufficient abundance to secure the exploration of the whole

area, it was advisable to dig first those parts of the site where there was only moderate depth of earth; where the surface indications showed the presence of many structures; where the strata had not been disturbed by the building of the Great Wall; and where the sea afforded a convenient dumping place. Therefore, towards the close of the season of 1897, Mr. Cecil Smith began on the high ground at the edge of the north-western cliff, and I lost little time in the succeeding year in organising operations further east along the north cliff, and working thence southwards and westwards.

In the north of what we named the North-Western Terrace the work in 1897 was confined to clearing the chambers of the uppermost or Mycenaean stratum, here very shallow (about half a metre under the surface) but showing well preserved pavements of ironstone which supplied an indubitable criterion of the relative level of two settlements at least. Only in two places, both near the line of a street, which bounds this quarter on the south, did the diggers penetrate below the upper pavement level to find better built walls below, pre-Mycenaean painted, with two fragments of incised, dark-faced ware and rock at three and a half metres depth. In the southern street were found the bust of a terracotta idol, only a few inches below the surface, and three similar idols hard by, and, in the same layer of deposit, fragments of two *pithoi*, one incised, one painted with spirals. Rude stone saddle-querns and other utensils were of frequent occurrence. At the very edge of the cliff were found parts of a bronze pot less than half a metre down.

In 1898 we resumed operations here with a trench carried north and south across the Terrace just east of the point, at which work had ceased on the upper stratum of E 3 in 1897. The object was to obtain a mechanical classification of potsherds by degrees of half metres, in order to resolve certain doubts raised by the stratification, observed in the disturbed ground near the Great Wall.

Almost all this North-West Terrace was completely excavated towards the close of the season, but we will neglect the chronological for the geographical order in description, and continue in the main to follow the downward slope of the site from west to east.

Over most of the higher part of this 'Terrace' (*i.e.* excluding the fringe of the north cliff) rock was found at from four to five metres depth. The uppermost stratum of walls was found to continue downwards about 1·50 to 2 metres on an average, *i.e.* considerably lower than at the extreme west, and either to rest directly on earlier and often thicker walls, or on earth. For example, at one point in the space F 3 the northern and southern walls of a room go down 1·60 and the southern rests on earth. Below them are traces of a cement floor laid on hammered earth. The east and north walls go down a little deeper. At 2·50 a lower wall begins and goes down half a metre, at which point was found a second floor level, laid on a stratum of pebbles. Finally, two walls east and north were not seen till a depth of three metres was reached, and they went down thence to rock at five metres. There were thus three systems of construction represented. In the last metre of deposit occurred many fragments of incised 'duck' vases, some nearly complete. In

the upper stratum at a depth of about 1·30 was found a Melian painted 'red and black' bird-vase, and in the adjoining chamber on the north three bronze chisels (*infra*, p. 190) lay at the same depth. At all levels occurred vessels of rough local stone, querns and the like; but only at about 1·80 (*i.e.* in the uppermost part of the Early Mycenaean layer) did we come on steatite lamps or other vessels in the finer imported materials. In chambers to south-west of this, dug in 1899, early pottery was even more plentiful in the lowest layer of deposit above the rock. The most interesting feature in the uppermost stratum was the complex drainage system revealed in E 3, where three conduits lie one above the other. No similar system was detected in the underlying strata, and at this part of the site at any rate drainage works are late, as are also the stone column bases, of which one occurred in E 3 upon the late pavement and almost at the surface. The whole of this terrace has been banked up on the east with a late retaining wall running down the eastern side of squares F 2, 3. Similar retaining walls, with only an outer face, were found afterwards lower down the hill to east, and they mark a date at which the site was brought under cultivation. When this date was, it is impossible to be sure, but probably it falls within the epoch of mediaeval Italian domination in the island. The particular wall, which retained the North-West Terrace, we destroyed after its position and character had been noted, in order to clear up the connection between this 'Terrace' and that below.

On the north of this Terrace, where the cliff edge is near at hand (F 2), a group of chambers was opened in their entirety. The architectural features of the more interesting among these are described below by Mr. Atkinson. On or near the rock level in several of these chambers were found numbers of the flat bowls or saucers, of the type described on p. 144. One 'pocket' of nine examples occurred in F 2 and near it many fragments of rough vessels with nodules of bronze sticking to their inner sides. These look as if they had been used for smelting purposes, and their associations show bronze to have been in use (though probably not common use) at Phylakopi as far back as the Early Mycenaean period. In this region the latest floor levels were well marked, especially in chamber F 2, where a thin layer of plaster was found laid upon a stratum of hard stamped earth at only ·40 from the surface. Immediately below this level runs the covered drain which bounds the 'Terrace' on the east.

Several of the smaller chambers to west of this point proved singularly productive of vases of the mature Melian sort (later Second City), found at a depth of rather less than a metre. In one room, a bulging wall had sheltered a little group including a 'pedestal' vase, a painted filler, and a plain two-wicked clay lamp. These little doorless spaces showed no trace of pavement, but as their walls did not descend below ·80 we may assume the vases to have been on their floors. Probably these rooms were of the nature of small magazines. Hard by was found the painted 'bath' (pp. 139, 140) evidently *in situ*, in the corner of a room bedded on a slab of ironstone schist at ·50. As the supporting earth was removed, its

cracks opened and it fell to pieces. On the same level occurred two stone 'sinks' or washing troughs, also in position (Fig. 6).

Below this probable floor level there usually appeared a layer of packed sand, and below that pebbles, forming a wholly unproductive stratum about 1 metre thick. Under that sherds were found again lying on the rock, whose surface here is very uneven, causing the total depth of deposit to vary from 2·50 to 4 metres.

§ 4.—*The North Central Terrace.*

The distinction of the town into 'Terraces' is in the main arbitrary. So far as these quarters are 'terraced' at all they are the superficial result of comparatively modern embanking, and their appearance was completely altered when the surface deposit had been removed. But the 'Terraces' as it happens, do correspond to certain distinctions of character between different parts of the northern region of the town, as well as to actual quarters, as delineated by lines of main streets, of which one runs obliquely up the eastern side of F 2, 3, dividing the 'North Central Terrace' from the 'North-Western Terrace.'

Fig. 6.—Stone Washing Trough *in situ* (F 2. *d*).

So far we have described a high-lying block of domestic buildings of much complexity but no pretension. Small chambers, ill-built and bulging walls, and absence of architectural decoration, characterise the North-Western Terrace. Descending, however, across the street line, the visitor will find himself at once in rooms much larger and better constructed and in well marked streets. These features correspond with the heightened interest and sumptuousness of the finds made below.

On the sea face of this region there is a steep dip. The rock has given way in places to the sea-pressure, and walls have collapsed, bringing about considerable disturbance in the stratification of deposit. Thus on the cliff

edge we found here the sherds of all periods greatly mixed. The rooms were more intact in J 1, than in G 1, the shore in the hollow of the bay being less exposed to the waves. Here in 1899 were brought to light large chambers lying at the back of the *megaron* of the Palace; and below them at a depth of 3·70 metres much early pottery, *e.g.*, two 'duck' vases, a broken incised vase, and painted primitive ware with suspension handles; three '*schnabelkannen*,' and many early painted geometric cups. Under the northern wall of a later chamber at a depth of five metres, was found a large unpainted jar of a type contemporary with the early geometric ware containing, together with earth, the bones and teeth of a very young child. In the same jar were a plain cup and a Melian saucer. This burial is claimed by its finder, Mr. Mackenzie, for an example of intramural sepulture in the period of the First City, such as was remarked in Aegina in certain pre-Mycenaean houses excavated by M. Staes ('Εφ. 'Αρχ. 1895, pp. 227 ff.). At Cnossos the bones of a new-born infant were found by me in a hole scooped out of the virgin earth below the pavement of a house, probably originally of the Kamáres epoch (*B.S.A.* vi. p. 77). There is therefore nothing improbable in Mr. Mackenzie's supposition.

In H 1 at a depth of a little over a metre were found four geometric Melian saucers, two of them on the ledge of a square window-like aperture, where probably they had been left by their users. As these belong to the Early Mycenaean period (*v. infra*, p. 143), they serve to date the main part of these structures on the cliff edge. The Late Mycenaean stratum has almost wholly disappeared in this region, and left the remains of the 'Second City' exposed with faint traces under it of the First.

Other finds made about here were a 'Gorgon' vase on the rock, and a good deal of 'Kamáres' ware and geometric Melian of the Early Mycenaean period. A group of chambers forming the most complete house discovered so far in any stratum (see Fig. 27) was found filled with such loose deposit of stones and earth, as to suggest that we were not the first to excavate it. Lying on the edge of a low part of the cliff, it may have been partly cleared at some period by fishermen in search of a shelter. But at the same time it must be remarked that the pottery found on its floor level was uniformly early. Traces of a colourless plaster adhered to the walls (*v. infra*, p. 41).

Another well-built group of rooms on the cliff edge in G 1 yielded a painted 'filler' at a depth of about half a metre, just above the level of a cement flooring. Traces of similar flooring appeared everywhere in this region at a corresponding level. Bronze pins came also from the same deposit, pieces of worked bone, and fragments of a small clay box (p. 208). Under the cement line were usually to be seen charred remains, and then another line of cement flooring. In some cases a still lower stratum of cement lay at a depth of a little over a metre below the highest floor.

A street of the latest city, laid on the line of an earlier street, divides this cliff quarter from the crown of the 'Terrace' sloping eastward. In the deposit in this street occurred enormous quantities of

imported Mycenaean ware of the finest 'third style.' In the pavement (here about one and a half metres below the surface) was found a water conduit; and an open terracotta runnel, evidently part of the same system (see Fig. 57), remained *in situ* crossing a paving slab at about the same level.

The block of chambers lying to south of this street, and filling all the rest of G 2 up to the line of another street at its southern edge, produced more pottery than any group opened hitherto. Certain large spaces, with three systems of walls well represented, yielded much dark-faced lustrous ware, both incised and plain, of the kinds habitually found together on this site at a low level, including 'duck' vases (pp. 88–91) and the ox figured on p. 91, from the deposit on the rock. The depth of this deposit from the surface was 3·70, and from the foundations of the Second City, one metre. Here also occurred typical painted geometric *schnabelkannen*. Other chambers to east yielded similar ware from the low level.

In G 2 upon a floor of hard earth was found at a depth of ·80

Fig. 7.—Stone Tank *in situ* in G 3.

the 'Fishermen' vase (*infra*, pp. 123 f.), probably a broken lamp-stand. Several Melian saucers occurred at a depth of 1·50 to 2 metres associated with a mud floor level of the Second City; and an entire *pithos*, lid and all, in the street to south. This, like the other street to north, was rich in imported Mycenaean sherds, among them those of polyp vases; and it further yielded the notched flint knives (*infra*, p. 194), a good many bits of blue and black stucco and a fish-hook in bronze—all from its surface deposit. Some spaces here were left to be finished to rock in 1899 and many were filled in again in 1898 and 1899 to prevent the collapse of walls.

Crossing the street in the last days of the season of 1898, we attacked another block to the south, warned by the solidity of the northern outer wall to expect chambers of better character than any explored before. Beginning in G 3 we hit, as it chanced, the poorest and most ruinous room of a very

remarkable group: but the stone tank built into the north-east corner (Fig. 7), which we found full of small plain cups, terracotta 'loom-weights,' and stone pestles, and also a complete steatite lamp from two metres depth, were earnests of better things to come. And in fact on the following day, after clearing the next room to east to a depth of nearly two metres, and establishing the existence in it of a square pillar, built up of two blocks resting on a base (Fig. 8), we came on the source of the painted stucco fragments already noticed in the roadway to north.

The stucco in this room (see *infra*, p. 70) lay nearly all face downwards, from ·50 above the floor level down to that level itself (about 2·50 metres below the surface). Below that level began a layer of unproductive stones which was thoroughly searched in 1899. Not one single fragment of stucco remained on the walls. Adhering, however, to the square pillar was a bit of plain red stucco, and many other fragments were found in the earth about the

FIG. 8.—PILLAR BUILT OF TWO BLOCKS.

base. The finest blue fragments were found towards the centre of the room; for example, all those showing flying fish. Nearer the walls lay pieces of thicker and coarser plaster painted with bands of plain colour, and backed with traces of pebble concrete. These in some cases were curved, as if they had formed a cornice. The finer fragments, being very thin and very rotten, were most difficult to separate from the heavy mould in which they lay; but working delicately with knives for three days we succeeded in recovering the greater part, that had not been pulverised by the shock of the original fall or the action of damp.

In the communicating chamber to south appeared at about the same level numerous pieces of stucco with red ground colour, on which were painted white lilies with yellow tipped stamens. The third and outermost room (G 3 : 3) yielded no stucco; and in all three chambers potsherds were very scarce and whole vases were not found.

The last group of rooms opened in the season lay to west of these; and here again a square pillar was found *in situ* rising in a single block from a slab on the Second City floor level, which appears at a depth of 1·30 metres (Fig. 9). Near it, and almost on the floor level, were found five painted pedestal vases (two found in 1899) and a column base, lying loose in the earth of the same deposit in the communicating chamber on the west. These chambers were dug out to the rock at a depth of 3·20 metres in the following season (1899), and a good deal of scarlet colouring matter was found in broken vases lying level with the pillar base, *i.e.* on the floor of the Second City. Below this began to appear Melian saucers, two being found fitted together. Above all was found (and removed) a small paved tank which belonged to the Third City. Under one of its slabs were brought to light fragments of a bronze two-handled vessel;

FIG. 9.—MONOLITHIC PILLAR.[1]

and below this again appeared a paving slab, creating the impression that an earlier 'tank' had originally occupied the same position.

South of this block of chambers the surface of the ground sloped upwards and the uppermost structures proved to be more deeply buried under a light and unproductive supersoil. Mycenaean walls and remains, *e.g.* a double-wicked terracotta lamp and the bust of an idol, did not begin to appear till over a metre of deposit had been removed. Immediately to south of the western Pillar Chamber appeared a maze of small passage-like rooms in which nothing of moment was found. The rock lay at an average depth of four metres, and the usual three-fold stratification was particularly clear in certain rooms. In one chamber occurred a unique fragment of wall stucco with red, blue, and black rosettes on a white ground, at a depth of nearly two metres.

[1] The apparent downward tapering of the pillar is due to the photograph having been taken from above.

§ 5.—*The North-Eastern Terrace and the Palace.*

The area to east of that just described contains remains continuous with those to west, and divided by no clear line of demarcation. It was tapped at various points in 1898, but only superficially. For instance, the street J 3 : 11 was followed and its central conduit searched for some distance, to recover vases wedged in the drain; and in hopes of finding a gate the southern block of the late Palace (J 1, 2) was laid bare, as the result of a tentative sounding, and various rooms and walls in the lowest part of squares J 2 and 3 were opened out in an attempt to hit upon a northward return of the southern fortification system. But the thorough exploration of this region belongs to the season of 1899, without which nothing found there in the previous season would have been intelligible.

This region was attacked where work had been abandoned in 1898 to west of the superficial ground-plan laid bare near the trial sounding in J 1, 2. Parallel with a threshold in the long corridor to west of this appeared, again to west, a much more massive threshold in two pieces, flanked at the farther side by a large squared block, capped by a deposit of charred wood among whose remains were bits of bronze nails. From this block a wall ran northward. North of this threshold, as no pavement was encountered, a sinking was made and earlier walls were struck below, associated with pre-Mycenaean pottery, *e.g.* a saucer, a small double vase, and two painted geometric cups, all at about $3\frac{1}{2}$ metres depth, and close to the rock; but further north good concrete flooring was revealed at a very moderate depth (·20 to ·90 according to the dip of the surface), covering the area of the large room, which we now know as the *Megaron* of the Palace. In the shallow deposit on this pavement sherds were rare and exclusively Mycenaean. The pavement was left intact, and the whole room with its southern threshold was carefully cleared without any object of interest being discovered, except a bare rectangular patch in the centre, unpaved and showing a discoloration by burning. This is evidently the situation of the central Hearth, but no ashes or cinders were observed on or near it. It was now seen that the group of chambers to the east, excavated in 1898, was in line, and connected with the new block, and that together the two groups showed the complete plan of a Mycenaean Palace of the Tirynthian type. The foundations go down only 1·50 metres below the original surface of the soil. Outside (south of) the outer threshold appeared remains of a slab pavement.

The long corridor, bounding the Megaron on the west, was next opened and the space between it and the eastern limits of the excavation of 1898 was found to be filled with a well-preserved block of chambers of three periods, quite distinct from the Palace.

The superficial soil of the area south of the threshold of the Palace was found to be remarkably clear of structures. At a depth corresponding generally to that of the threshold the soil was found tough and mixed with rough stones like those used in 'cobble' paving and it became clear that when the Palace existed, here was an open courtyard. Fragments of small marble

slabs were found on the floor north-east of the anta. Sherds over all this space were scarce and late Mycenaean.

As soon as the absence of constructions near the surface had been established this area was sounded more deeply, and the rock appeared at moderate depth with early painted ware lying on it. A very well preserved early ground plan was there found to underlie later constructions just south-east of the Palace (see Fig. 11). In H 3 an orifice was revealed, lined with earthenware cylinders, which proved to be the mouth of the well (Fig. 10), described below (p. 58). The earth was cleared out of this to a depth of nearly six metres and found to be mixed with sherds exclusively Mycenaean. Below this point infiltration of water from the sea stopped progress.

To east of the Palace block, however, a large late structure, whose walls showed above the original surface, was now opened. Its cement floor-

FIG. 10.—THE WELL MOUTH.

ing appeared at a depth of about ·50, and, in the passage to south of it, remains of a marble paving at the same level. Further excavation here resulted in the finding of the interesting earlier house described below (Fig. 32) but the whole space was singularly barren of pottery. In the north of the next block on the south (J 2 : 9) were found two complete *pithoi* with incised decoration, at a depth of 1·45 metres below the latest floor level (Fig. 11).

In the eastern part of J 2 and 3 similar deeper sinkings revealed the best preserved pre-Mycenaean house on the site (described below, p. 44), whose south wall almost touches the line of the drain, explored in 1898 (Fig. 12). The remarkable preservation of early buildings in this region is due perhaps to the artificial filling in of a space before the later Palace. This house, based on rock at 3·50, yielded an enormous amount of pottery, including the curious vessel described below (p. 207), found in the doorway between rooms 2 and 3. The inside of the walls showed much rough cement still adhering, but

stripped of its original face; and in room 2 occurred near the rock fragments of burnt clay bonded with straw. They are probably remains of a hearth floor. On the rock in a room immediately to west (K 3) was found a 'serpent' ring vase in incised geometric ware (p. 91 and Pl. IV. 9).

Passing the street and conduit the diggers found a much deeper supersoil than on the north. The line of this street was investigated to westward, and the street in G 3 was also explored to see whether the two had connection. The removal of the latest walls crossing these streets was effected in some cases, after due note had been taken of their position. To southward a passage was opened running roughly parallel to the street line, and by this exploration was limited. The deep chambers in the interval

FIG. 11.—THE EXCAVATED PART OF THE SITE LOOKING TOWARDS THE S. END OF THE PALACE.

were not very remunerative, but traces of stucco, with a fish or bird design, found in J 3 at 2·10 metres depth, showed that the Mycenaean stratum hereabouts had included rooms of the better sort. Rock was found in this stuccoed room at 3·70 metres, but no further find of importance was made.

The large area, thoroughly cleared to rock to west of the Palace (H 2), proved of architectural interest mainly, structures of the earlier settlements being well preserved below the Mycenaean. Among other interesting objects, which came from this region, was an ivory engraved ring (p. 193) from a depth of two metres.

The last space to be taken in hand corresponds roughly with square H 3, and includes all the remains bounded north by the block last mentioned, and

west by the fresco house excavated in 1898. Through the middle of this runs the main street line already partly explored. The soil immediately above the slabs covering the conduit in this street was found hard as if trodden, showing that the drain was laid in subsoil, not on the surface. The supersoil hereabouts was very deep, and the pottery yield consequently small until a metre or two of deposit had been removed. In one room a wall-facing of ironstone slabs was found in the Second City stratum, anticipating the gypsum slab facings, afterwards found at Cnossos; and a plaster floor rested almost on the rock. The bust of a marble idol was here unearthed on the floor level, where painted geometric ware was abundant. In a curious cupboard-like recess in the south wall of another room was much fine primitive Melian pottery of the Second City; and at a considerably higher level (about

FIG. 12.—EARLY HOUSE IN J 2 FROM ABOVE.

1·80 metres under the surface), occurred fragments of one of the typical 'red and black' bird-vases. A find, interesting for the history of local technique, also made in this region, was that of a Melian saucer, with foot, lying 3½ metres under the surface.

In the last days of the season a further examination was undertaken of the cliff face to north of the east wing of the Palace, close to the point (J 1) where the most primitive pottery had been found in 1898. It was thought that similar pottery would outcrop on the cliff cut by the sea, and this proved to be the case. A large number of sherds, antedating the First City, came at once to light in the lowest part of the face, and it is evident that the most primitive settlement at Phylakopi lay at this point. But no constructions, that can be identified with it, have yet been discovered.

§ 6.—*The Other Regions.*

In the low region lying to southward, between these 'Terraces' and the Fortification Wall, no thorough excavation was attempted. A square shaft sunk in the south-east corner of H 4 in 1899, sufficed to show that under one metre of supersoil Mycenaean walls begin, and that under them again are remains of the Second and First Cities, as elsewhere. The rock is nearly six metres down at this point. The uppermost strata of remains were also tested farther west (E 4) in 1898, and two chambers of the Second City, very productive of Melian saucers and small plain cups (lying one within another in long *rouleaux*), were opened. But these were only test excavations made with a view to determining whether the south of the site might be expected to be as rich as the north; and since experience has taught us in other quarters of the city that partial soundings give a very erroneous idea both of house plans and of strata, nothing more need be said about the constructions so laid bare.

Everything goes to show that this southern region may confidently be expected to yield as interesting architectural and ceramic remains as the northern. Indeed, the greater average depth of its supersoil renders the underlying strata, if anything, the more promising. In this region, moreover, the problems concerning the line and character of the south-eastern fortifications, and the situation of the ancient harbour, are to be solved. There is, in short, fully as much reason for digging here as at any other point of the site, and it is to be hoped that, after an interval devoted to exploration in Crete, the British School will see its way to resuming work at Phylakopi.

It remains only to be recorded that experiments were made in the cemeteries, marked by the presence of many gaping and rifled rock graves to south of the site. On the lower ground near the sea some of these known graves were cleaned out in 1896 and 1897, without much result. In 1899 I made a further effort both there and on the higher hill slope to south-east to find untouched burials, and opened about fourteen tombs, which were not obvious to the casual observer, sounding the rock also at about fifty other spots in the vicinity. But all these fourteen had been rifled long ago and silted up again in the course of ages. Only in one, originally a *tholos* of semicircular shape (four and a half feet along the chord of the arc and three feet greatest depth), a patch of the original deposit, near the point at which the feet of the corpse had probably lain, had not been thoroughly examined; and in it I found sixteen vases, of local rude geometric painted ware of the earliest period of the Second City, including a perfect *kernos* (*infra*, p. 102) and several cups and bowls, of which two were hidden inside larger jars. But so complete is the evidence for the local pottery of this period, obtained from the lower strata of the city, that this grave can add nothing to our knowledge. The rest of the tombs opened contained only scattered bones and sherds.

Untouched graves were certainly found near Phylakopi about 1830, and from them come certain early Melian vases in various European museums, notably in the collection at Sèvres. But native testimony is unanimous that for many years past no tomb searcher has been rewarded in this locality. As I found several graves worn down almost to their floors, it is probable that more, originally cut in the soft rock of the upper hill, have been completely denuded away, and that the emergent vases and other objects buried with the corpses have been picked up by shepherds.

D. G. HOGARTH.

CHAPTER II.

THE ARCHITECTURE.

[PLATES I., II.]

§ 1.—*Introductory.*

IT will, I believe, be convenient to preface rather than to conclude my report by a brief summary of its contents.

The city stood on a small hillock of limestone with low land to the west, east, and south; on the south-west it was connected by a ridge with high ground further inland. The sea has encroached considerably on the land and has evidently carried away a large part of the town. The town may have been on the coast, or possibly it was some little distance inland (Fig. 1, p. 4).

Our city appears to have measured about 240 yards from east to west. On the south side are considerable remains of a defensive wall of great strength (Figs. 2, 16). This consists of two well-built walls, each about 2 m. thick, parallel with one another, and about 2 m. apart. The space between them was filled with loose stones, thus giving a total thickness of about 6 m. or 20 feet. The most interesting feature of the great wall is a projecting work containing a staircase. The use of this ruined building is doubtful; it may have been merely a tower, or it may have protected a postern gate.

The remains of buildings within the town are of three distinct periods. Walls were found immediately below the surface, and floors only a few inches lower. The foundations of these walls are for the most part shallow and rest sometimes upon *débris*, sometimes on the remains of earlier walls. These earlier walls are better preserved than those of the later period owing to their having been buried in *débris* before the later buildings were begun. Their foundations are carried down to the rock and in some cases the walls remain standing to the height of a man. Before the rock is reached, however, a third system of walls is uncovered and these again are in part conformable and in part unconformable with those of the succeeding period.

Thus at different levels are found three series of buildings apparently unrelated to one another except that the builders of one period used the

walls of the preceding age as foundations where they could conveniently do so. These phenomena admit of more than one explanation. It may be supposed that the town was partly or wholly destroyed and perhaps deserted. On the other hand there may have been merely a gradual and normal rebuilding.

In the two later periods the buildings are laid out in an orderly and systematic plan (Figs. 25, 42), the streets of the latest or Mycenaean period crossing one another at right angles; they run with the cardinal points of the compass. They are about a yard-and-a-half wide and under several of them there is a rough stone drain to carry off the rain-water. The streets were evidently crossed by flights of steps where the gradients were sharp. These steps would not impede the progress of a mule, and it is clear that wheeled vehicles were not used. The streets of the second period are

Fig. 13.—Ruined Walls with the Cultivated Plain and the Hills in the distance.

not so easily recognisable, and of the first period only isolated buildings remain.

We may assume that the buildings were not packed together quite so closely as a first glance at the plan would lead us to suppose. Doubtless some spaces which look like rooms were open courts with perhaps low walls separating them from the narrow street. The houses of the two later periods appear to have contained from two to four rooms; possibly some were two storeys high. Some perhaps had cellars approached only from the inside, for the absence of doorways in some walled spaces is otherwise puzzling. The cellars may have been in some cases above ground, or, where the ground sloped, above ground on one side and below on the other. There are some narrow rooms or passages which may have contained staircases leading to the flat roofs or to upper storeys.

With the exception of the Great Wall the most remarkable building yet

found is the Mycenaean Palace, of which a fairly complete plan can be made out (Fig. 49). In front of it was a spacious court-yard containing a Well lined with earthenware cylinders (Fig. 51). A portico of comfortable dimensions and facing due south formed the entrance to the Megaron, a room 22 feet by 19 feet, paved with a sort of rough plaster and having a square hearth in the middle. To the right of the megaron was a series of small rooms, presumably for the women.

Other buildings, fairly perfect so far as the ground plan is concerned, and with walls standing in some cases to a more considerable height than those of the palace, will be described in speaking of each particular period.

The methods of construction employed at one period do not seem to have differed very much from those in use at another. In the Second Period the work was on the whole better done than in the Third Period, but the systems were presumably the same. The stones employed are basalt and several varieties of limestone. Marble is not included among the rocks of the island and only a small fragment was found in the town. The walls are usually two feet thick and are built of rubble with a sort of mud-mortar. The outsides were probably daubed with plaster of some sort and white-washed. In some places the rock was found to have been carefully levelled before the wall was begun. Evidence of scaffolding similar to that in use in England at the present time is clearly seen in one building. The doorways were square-headed and received various degrees of finish; the lintel was probably used in some instances, in others the wall appears to have been built over a wooden frame. Three of the four complete examples remaining are very narrow and so low that only a child could enter without stooping. Besides the earthy plaster which seems to have covered most walls a good plaster made with lime was used and was sometimes very beautifully painted (pp. 70–79). The ceilings seem to have been of plaster on reeds like those used in the island at the present time.

§ 2.—*Relationship of the Buildings of the Three Periods.*

One of the most interesting questions is the degree of continuity of occupation in the history of the town. To this, however, the evidence of the buildings themselves does not seem to offer any answer. The same style, or perhaps I should say absence of style, is observable in all the three periods into which the buildings seem to group themselves. The same methods of construction, with slight variations, were employed. In many cases the walls of one period are built upon the ruins of earlier work. Sometimes the coincidence is exact, sometimes it is so rough as to show that the lower wall was used merely as a foundation. But generally speaking there is no connection at all between the walls of different periods (Fig. 14).

It would seem to be clear, therefore, that twice over all the buildings

were pulled down and the town laid out afresh without much regard to its former lines. On the first occasion the old walls were destroyed to within two or three feet of the rock on which they were built, the new walls were carried down to the rock, and the *débris* spread to form a raised floor covering the stumps of the old walls. At the second rebuilding the walls were left standing to a greater height, a level platform of rubbish was formed, and the new walls were built sometimes on the tops of the old walls, sometimes on the rubbish filling the intervals between them.

Each of these rebuildings may have been gradual and have been carried out, now in one quarter of the city, now in another; it does not seem necessary in either case to suppose that the whole city was rebuilt at once.

The destruction may have been peaceful and deliberate in order to make way for better buildings, or it may have been caused by fire, by sack at the hands of an enemy, or by slow decay through desertion. Whether or

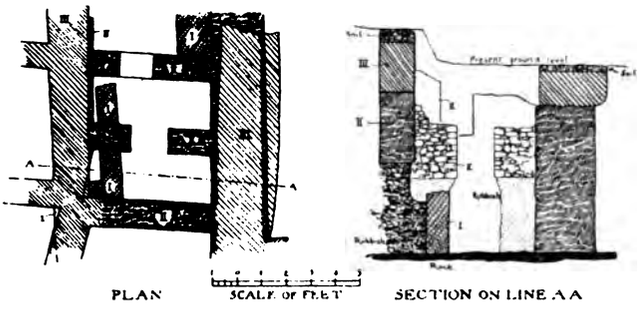


FIG. 14.—PLAN AND SECTION OF BUILDINGS IN H 2, SHOWING WORK OF THREE PERIODS AND A MODERN TERRACE FORMED FOR AGRICULTURAL PURPOSES.

not evidence of any of these misfortunes, supposing they befel, was to be expected, little or none was forthcoming. A deposit of earth found in some places between remains of Periods I. and II. shows that certain house-sites at least were unoccupied for a time.

The buildings themselves, therefore, seem to throw no light on the question of the relative probability of desertion and re-settlement on the one hand, or of continuity of habitation on the other hand. I have preferred to use the word *periods* rather than *settlements*, because the latter might be taken to imply desertion and re-settlement, while the former term suggests no theory on one side or on the other. The want of conformability between the buildings of different periods puts no difficulty in the way of accepting the view that occupation has been uninterrupted. At the same time, the similarity of the work of the various periods is no bar to the theory that the periods were separated by intervals during which the place was deserted.

Before quitting the subject of the relation to one another of the three different periods, it should be explained that the arbitrary colouring on the plans does not in every case mean absolute certainty as to the period to which every detail is to be attributed. Sometimes all that is certain is that a particular part of a building is earlier or later than the rest. The difference may sometimes amount to centuries, and yet the whole may belong to what we call one Period. It may also be added that it is easy to attach too much importance to puzzling details, which may be, as any one with experience of actual building work will recognise, merely the result of alterations of a quite unimportant character, some of them even made during the progress of the work and of no historical significance whatever.

§ 3.—*The Site.*

The ancient city stands on a gentle slope of limestone. On the east lies a plain of cultivated land almost level with the sea, and separated from it by a raised beach of rounded boulders, chiefly of basalt. The depression circles round the south side also, but gradually dies away, leaving a neck of high ground connecting the south-west corner of the town with the hills further inland. To the west the land has been destroyed by the sea, but it is clear, from what remains, that on this side also the ground was low. Towards the sea on the north and west the land ends abruptly in a cliff about 17 metres high rising sheer out of the water.

It is interesting to speculate as to how much further the city stretched, and how much further the land. It has, I believe, generally been assumed (*e.g.* by Mr. Hogarth in Chapter I.) that the town was certainly a coast-town and probably a sea-port town, and that only a few hundred yards, more or less, of land have disappeared, say two or three hundred yards. But on the other hand it is not impossible that the sea has encroached to a far larger extent than this. The great headland to the east, which juts out so boldly into the sea, is of basalt and has withstood the waves; but the town stands on a soft limestone yielding readily to the sea and also liable to dissolution by the atmosphere. The caves in the neighbourhood are not wave-worn caves, but are such as are found in other limestone districts. The ground immediately to the south-west of the town is pumice. Rounded boulders of basalt are indeed used in the foundations of the latest city, but it may well be supposed that they were thought worth carrying a considerable distance. Therefore, taking into account only the geographical and geological evidence, it would appear to be possible that the encroachment by the sea has been considerable, and that the land extended, at the time the city flourished, nearly a mile further north.

It should be explained that the natural features of the land described above are on a very small scale, and would be of no value as defences. The cultivated valley to the east may have been in former days a lake or lagoon,

or, as generally assumed, a bay, and thus may have afforded protection to the town from this quarter. The necessity for some such protection is suggested by the fact that the great town wall, very massive in construction, of which there are considerable remains at the south-west angle of the town, is not found on the east side. But in this part no excavation has been done beyond a few trial trenches, and the point is not worth discussing till the ground has been completely explored.

§ 4.—*The Town Wall.*

Of the great defensive wall of the town a length of about one hundred metres remains standing to a height of some four metres or so. Almost the

Fig. 15.—The Town Wall looking West, showing an Offset in the Work of Period II. and Bastion of Period III. built up against it. (See Plates I. and II. B 5.)

whole of this length runs due east and west. Eastward it dies away in ruin, but the western end takes a turn northwards, and about ten metres further on is stopped abruptly by the cliff which overhangs the sea. It seems clear that this turn in the great wall indicates one of the angles of the city.

No part of the wall has been assigned to the period to which the earliest houses belong; in one place it is built over a thin house-wall of that period (Plate I, B 5), but it is very doubtful whether the overlying wall is of the second or of the third period. Speaking generally, it is supposed that the

wall was originally built in the Second Period, and that it was strengthened and repaired in the third or Mycenaean Period.

In construction the fortification consists of two parallel walls each about 2 m. thick and 2 m. apart. These are connected by cross walls of very various thickness and height, dividing the space between the two main walls into a number of cells or chambers. Most of these chambers appear to have been from the first filled with loose stones, for in many places the main walls

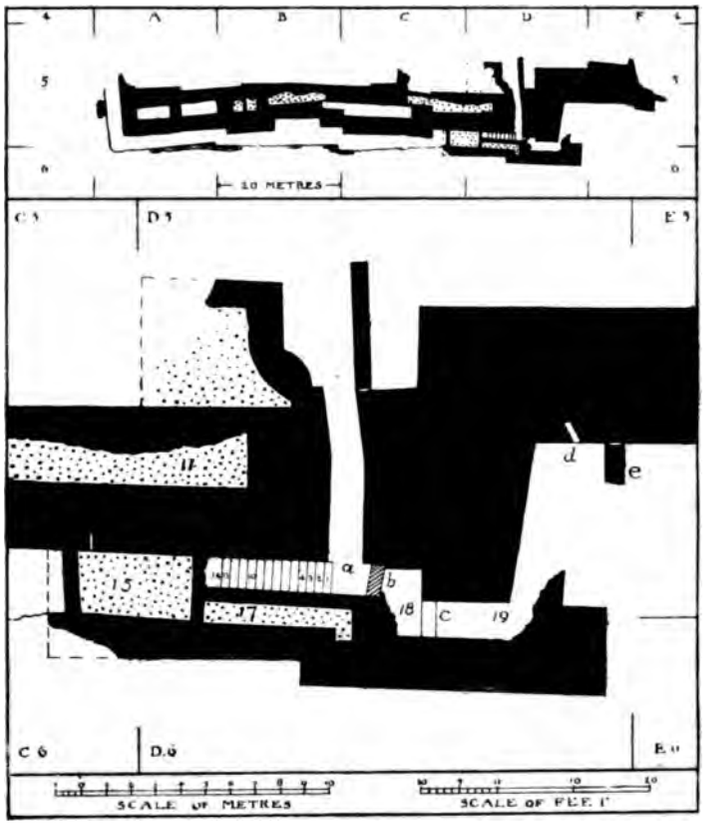


FIG. 16.—PLAN OF PART OF THE TOWN WALL AND ENLARGED PLAN SHOWING STAIRCASE, ETC.

had outward faces only and were left rough towards the chamber. Thus a single wall with a total thickness of 6 m. was formed (Pl. II., A 5 : 5; B 5 : 23, 24). Other spaces were undoubtedly built as rooms in the thickness of the wall (Pl. II., C 5 : 12, 13, 14).[1] The drain of which the outfall is shown in Pl. II. C 5 : *c* doubtless led from the chamber 12.

[1] All the chambers between the two walls were found filled with rubbish when the excavation began, and all of them were dug out.

FIG. 17.—VIEW OF PASSAGE THROUGH THE TOWN WALL LOOKING SOUTH.

FIG. 18.—VIEW OF STAIRCASE.
(Partly obliterated by *débris* fallen since excavation.)

Outside the town, roughly parallel with the wall and at a distance of about 2½ m. from it is another line of stonework, nowhere, I think, more than one course high except in the fragment facing the west wall (Pl. II., A 5 : *d*) where it rises to a height of about one metre. Its outline corresponds closely with that of the outer main wall, so that the two structures were doubtless in some way related and of the same period. The meaning of this

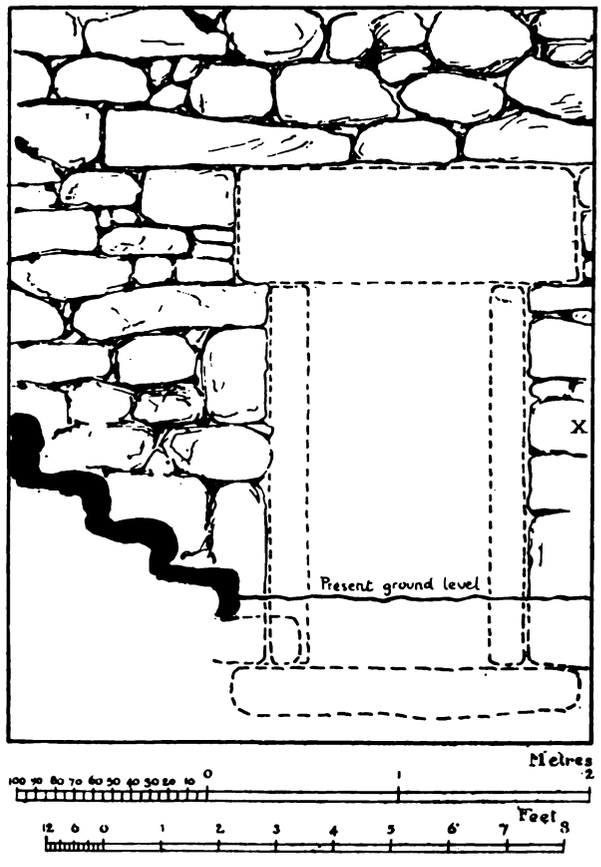


FIG. 19.—SUGGESTED RESTORATION OF DOORWAY IN THE TOWN WALL.
The Lintel, etc., shown by dotted lines, are conjectural.

outwork has never been explained, but it is not improbable that it merely defined the edge of a slight trench running round the town.

The bastion or buttress B 5 : *c* is an addition of the third period and is not bonded into the main wall (Fig. 15).

Further east there is another outwork of which the remains are comparatively perfect, though its precise arrangement and use are not very clear (Fig. 16). The structure contains a staircase (Fig. 18) outside the main wall,

and at the foot of the staircase there is a doorway leading through the wall into the town. The doorway may have formed a postern protected by the walls in front of it and approached by a passage (Fig. 16 : *18*, *19*, and Fig. 17) 1·50 m. wide. But on this hypothesis it is rather difficult to account for the staircase. On the other hand the outwork may have been some sort of tower or bastion accessible only from the town, in which case we must suppose the spaces numbered *18*, *19* to have been originally filled with masonry.

The doorway, of which a conjectural restoration is shown in Fig. 19, is 1·35 m. wide and its height appears to have been 2 m. The lintel was not found, but its size is shown by the surrounding masonry. It is

Fig. 20.—Angle of the Town Wall.

assumed that the jambs were lined with upright slabs of stone which would reduce the width to 1 m. The stone in the right hand jamb marked with a cross has a hole as if for a bolt. The staircase is 1·25 m. wide. The steps are of rough stone and were perhaps covered with plaster as at Mycenae. On an average the rise of the steps is ·25 m. and the tread ·33 m.

The main walls were built with numerous offsets or projections and they contain several examples of the straight joints found in similar structures elsewhere, the meaning of which has not, I believe, been explained. The greater part of the masonry is well built with large stones roughly dressed with the hammer, and is founded upon the rock. This is especially the case in the work of the earlier period, including the south-west angle (Fig. 20) of

which the quoins are particularly massive.[1] Later work is not quite so good. For instance, the small offset I. A 5 : *c*, which is carefully worked in the lower part of the wall, built in the second period, has been shirked by the later builders (Fig. 58, Section on line NO). The general character of the masonry as a whole is inferior.

The eastern part of the wall scarcely shows above ground. Its line has been traced but the excavations are too incomplete in this region to reveal fully the character of the work. The remains look like a series of retaining walls, but these are probably only foundations.

§ 5.—*The First Period.* (PLATE I.)

Extent of the Town.—Buildings of the earliest period are scattered over the whole area. How closely they were originally placed—whether or not

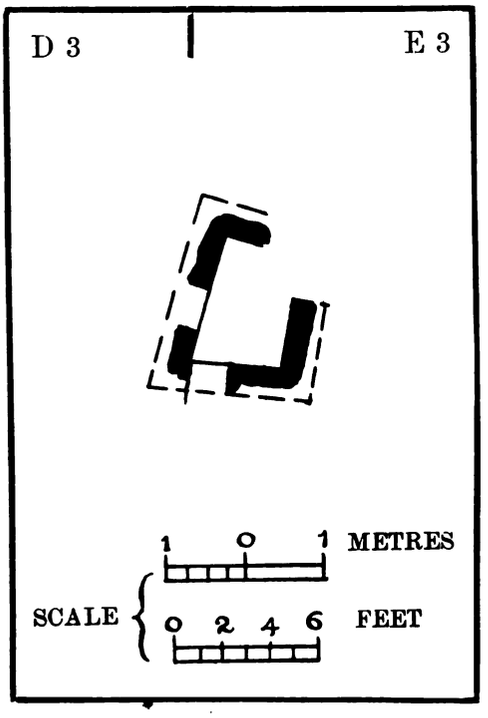


FIG. 21.—REMAINS OF PERIOD I.

they were crowded together as in the two succeeding periods—does not appear, but, now at least, comparatively wide intervals occur between the remains.

[1] Two of these quoins measure respectively 5′ 6″ × 2′ 6″ × 1′ 6″ and 4′ 6″ × 2′ 2″ × 2′ 5″.

Remains.—At the extreme west end of the town, there is a wall containing a doorway with a step running obliquely under the great wall of the

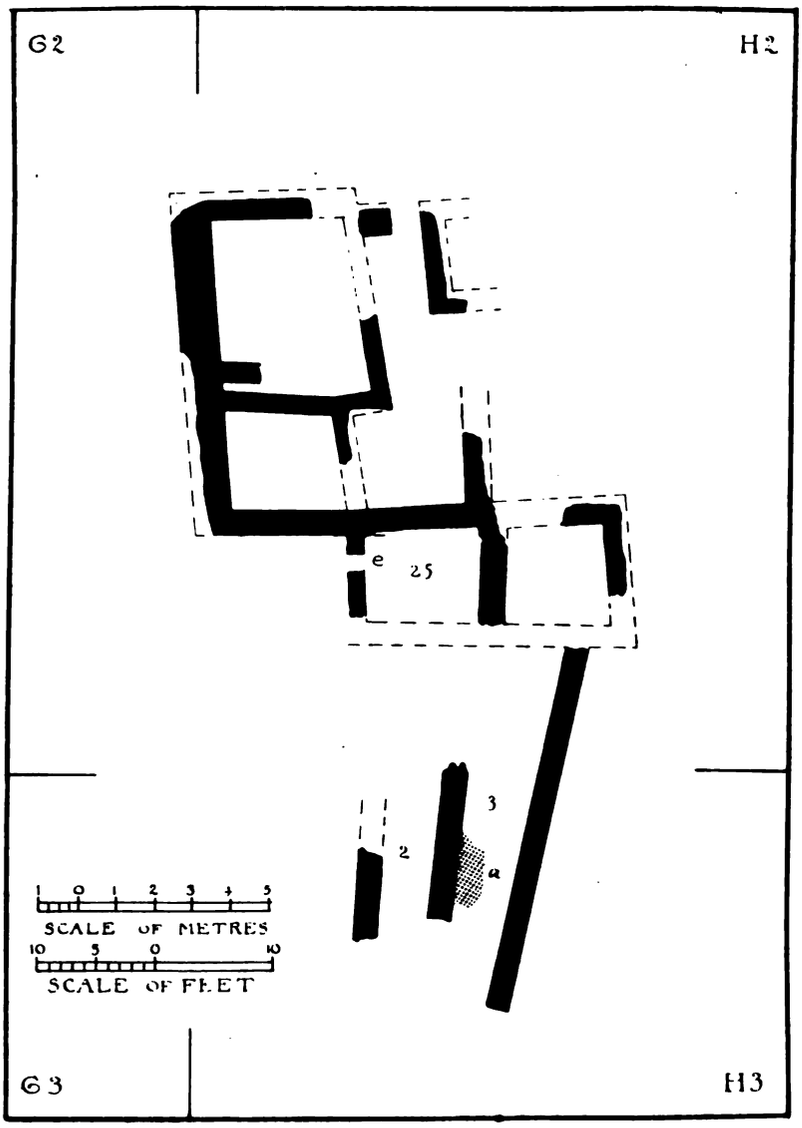


FIG. 22.—REMAINS OF PERIOD I., SHOWING PAVEMENT *a* AND DOORWAY *e*.

town. Further east (C 5: 6, 7) there are remains of a small room with two doorways and at E 3 : 16, an exactly similar arrangement (Fig. 21). There are considerable remains at H 2 but they do not yield, even to the freest

imagination, an intelligible arrangement (Fig. 22). There is a door at *e* in room 25.

H 3, room 3 (Fig. 22), contains remains of a pavement of thin slabs of hard stone of irregular shape and the east face of the wall between rooms 2 and 3 is lined with similar slabs. In J 2 : 19, we find what appears to be a complete building consisting of a single chamber (Fig. 23). It is a parallelogram, measuring inside 3·40 metres by 1·90 metres. The walls are ·60 metre thick ; they are built upon the rock, and remain standing to a height of about 1·15 m. No door is now visible; it may have been in the north wall, the

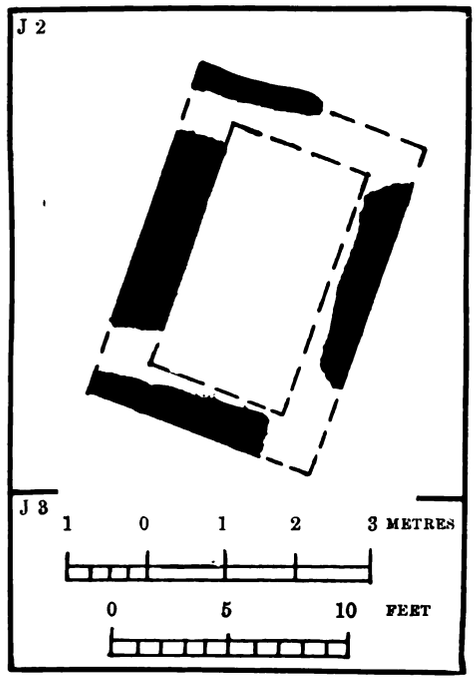


Fig. 23.—House of Period I.

greater part of which is hidden by work of a later period, or perhaps we are dealing with foundations only. (See Fig. 59, Section WX, 19, and Section YZ, 19).

It was interesting to investigate the remains in J 2 : 11, 12, and the temptation to reconstruct the missing portion is irresistible (Fig. 24, and Section WX). The west wall shows a " toothing," *a*, indicating the existence of a wall *c*. The two rooms communicated by a door *b*, which appears to have been blocked at a subsequent period. Room 11 contains what appears to be a channel formed with masonry running alongside the wall.

Methods of Construction.—All the walls of this period stand upon the rock except in one or two doubtful cases. They are built chiefly of small

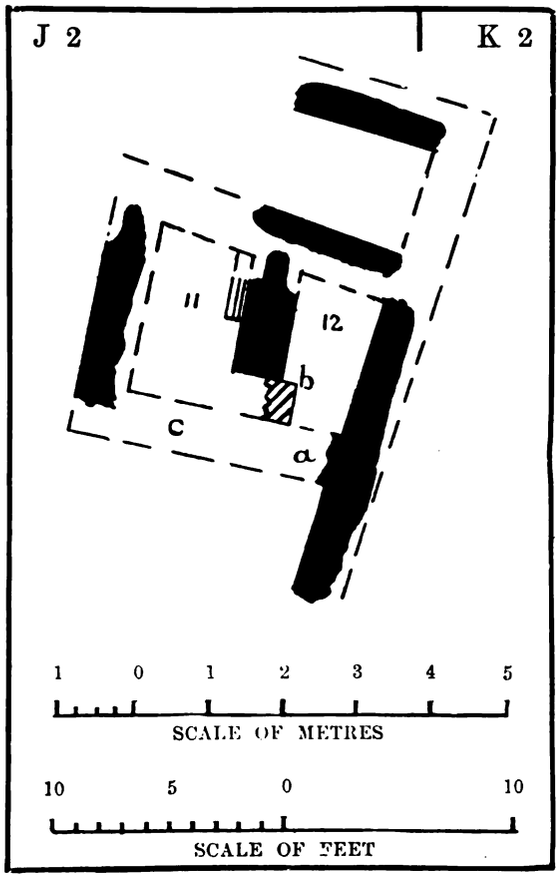


FIG. 24.—HOUSE OF PERIOD I.

The broken lines show conjectured position of walls destroyed or hidden by later walls; the shaded part *b* shows the later filling in of the doorway.

stones and are covered with a sort of earthy plaster. Probably no lime was used in building the walls, but some sort of clay was used instead of mortar.

§ 6.—*The Second Period.*

General Plan of the Town.—The remains of the Early Mycenaean period are in some respects more complete than those of the later Mycenaean

town. We can lay down, probably with an approach to correctness, the position of several streets (Fig. 25), we have some ten complete plans of houses, and the walls are left standing to a much greater height than those of the later age (compare the sections, Fig. 59).

The streets were perhaps on an average one and a half metres wide, and ran almost due north to south, and east to west. They were in fact footways with, doubtless, flights of steps where the gradients were steep. In Fig. 25, a restoration of part of the town has been attempted. The streets appear to coincide to a great extent with those of the succeeding period. If this

FIG. 25.—BLOCK-PLAN OF PART OF THE TOWN OF PERIOD II.

The darkest shade shows Streets, the middle tint Houses, and the lightest tint Open Spaces (the two latter conjectural). The parallel lines across the streets show the probable position of steps.

surmise is correct it would have been necessary, in excavating, to destroy these latter together with the drains which ran under them, in order to expose those of the earlier town. This was not done. The directions of the streets, their width, and the positions of flights of steps, are, therefore, conjectured from the evidence afforded by the arrangements of the various houses. The general plan is therefore based on the details. The details themselves, however, are often puzzling enough. One of the difficulties is to say how much space was roofed in, and how much was open yard. At

first sight the general plan suggests a mass of buildings without any open spaces. Considering, however, the narrowness of the streets it is clear that within the area allotted to any one house there must at least have been a small part open to the air. But when one begins to go into details it is by no means easy to say which of various chamber-like enclosures were rooms and which were courtyards. This has been rashly attempted in Fig. 25.

Particular Buildings.—To turn to the consideration of the individual buildings. Beginning at the west and working eastwards, the first house

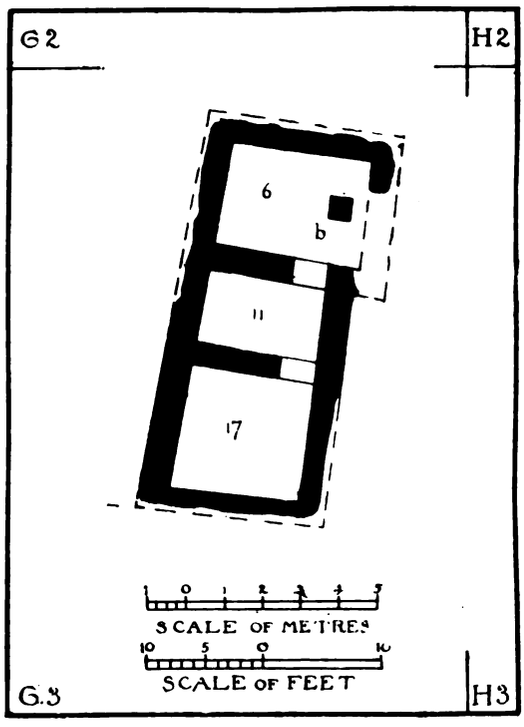


Fig. 26.—Plan of House of Period II. with the Stone Column *b*.

which calls for attention is G 3 : 6, 11, 17. The building consists of three rooms (Fig. 26). The northernmost (6) probably had an outer doorway in its now ruined east wall, for the other walls of the house show no traces of an entrance. From room 6 a doorway leads to room 11, and from this again room 17 is entered. The most remarkable feature of the house is the square stone column *b* in room 6. It is formed of two blocks of white limestone ·60 metre square on plan and 1·35 metres high measuring from the top of its rough stone base (Fig. 8, p. 17). A similar column (Fig. 9, p. 18) consisting

of one stone ·47 metre square and ·97 metre high stands in a house a few yards to the west (G 3 : *a*). The Flying-fish painting (Pl. **III.**) was found in G 3 : 6.

One of the most interesting buildings is that in H 1, numbered 5, 6, 11, 12, 13, (and Figs. 27, 28, 29). It appears originally to have consisted of two large rooms (11, 12 and 6, 13) a small room (5) at the back, and a court or corridor running along the front. The corridor is entered by a single door-

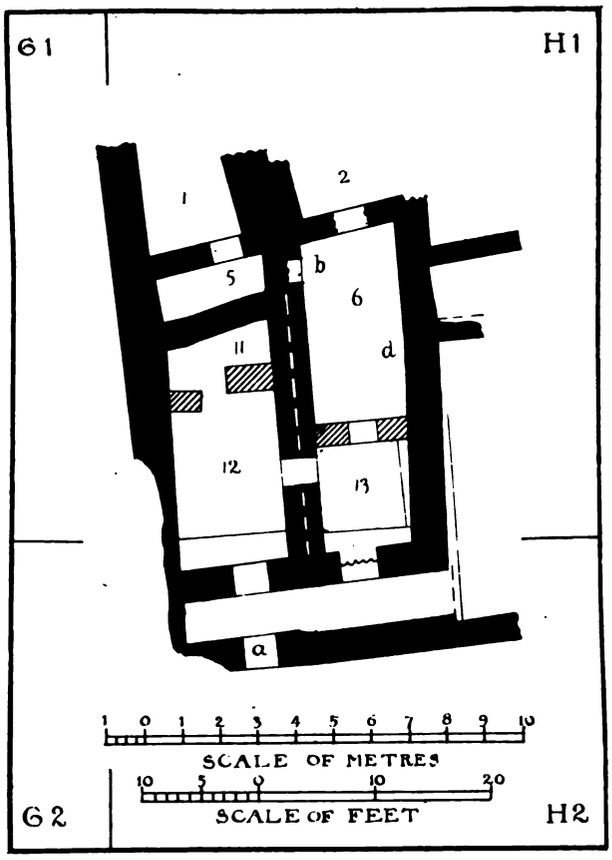


FIG. 27.—PLAN OF HOUSE OF PERIOD II.
The shaded walls are later additions.

way (*a*) from the street; its inner wall has two doorways leading into the large rooms, which also communicated with each other directly by a third doorway.

There is a recess at *b* which may be a blocked-up doorway, and there may also have been a doorway in the broken wall between 6 and 2. At some later time both the large rooms were divided by cross walls, and walls were also built across the entrances from the corridor, though with what object it

is now impossible to say. The original parts of this house are very well built. The side walls of room 6 will be referred to in describing the general

FIG. 28.—VIEW OF ROOMS 6, 13 IN FIG. 27, LOOKING TOWARDS THE SEA.

methods of construction in use at this period (pp. 48, 49). The later walls are very carelessly built.

Only four complete doorways have as yet been found in the whole town :

FIG. 29.—VIEW OF THE SAME ROOMS AS IN FIG. 28, LOOKING SOUTH.

that is to say, only four with walls *over* them ; all others shown on the plans have merely the stumps of the jambs remaining. The doorway *f* between

rooms 12 and 13 is one of these four (Fig. 30). The wall in which it occurs appears to be double, or in other words two walls side by side with a longitudinal joint between them. Only the western wall now spans the opening; the eastern wall does not now stand to a sufficient height. The doorway is ·65 metre wide; the present height is 1·40 metres, but some of the masonry above has probably fallen so that it was originally not more than 1·0 metre.

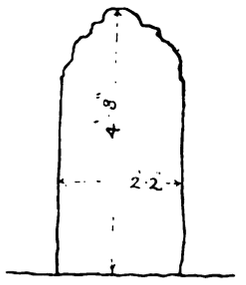


FIG. 30.—DIAGRAM OF DOORWAY BETWEEN ROOMS 12 AND 13 IN FIG. 27.

The building just described has been spoken of as one house. It is doubtful whether it is really one house or two. As already stated the central wall appears to be double, as though belonging to separate owners, and the large rooms have separate entrances from the corridor. On the other hand the existence of the doorway *f* would point to the whole building forming one establishment.

A building very similar in arrangement is seen in J 2: 7, 8, 10, 13 (see Fig. 31 and Fig. 59, Section WX, 17). There is no corridor but there are

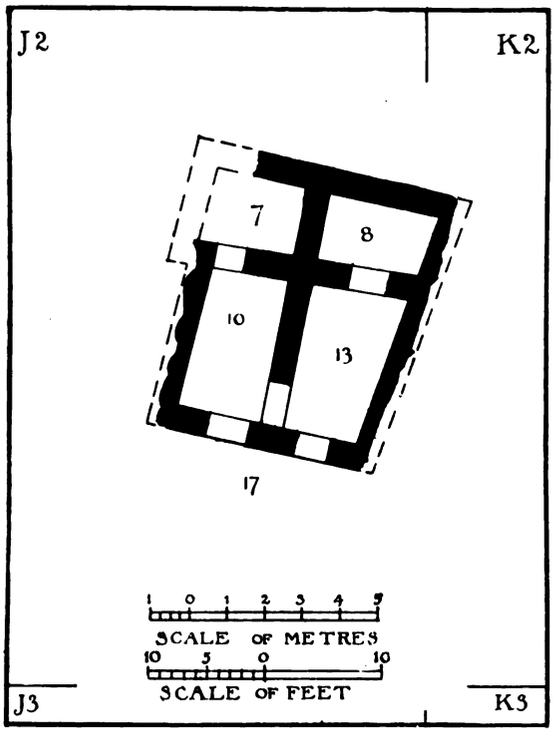


FIG. 31.—PLAN OF HOUSE OF PERIOD II.

two outer doors to the large rooms with doors opposite leading into the small back rooms and a doorway connecting the two large rooms.

Perhaps the most perfect building (if it may be considered as one building) is J 2: 21, 22; J 3: 2, 3, 7 (see Figs. 32, 33 and Fig. 59 YZ, 2). A porch (7), entered apparently from a court or corridor, leads to a room 2. To the right a passage 3 leads to two small rooms 21, 22, at the back; the division wall between these two rooms contains a doorway *d* subsequently blocked; the eastern part of the wall has disappeared. The walls of this house remain standing to an average height of 2·3 m. (about seven feet six

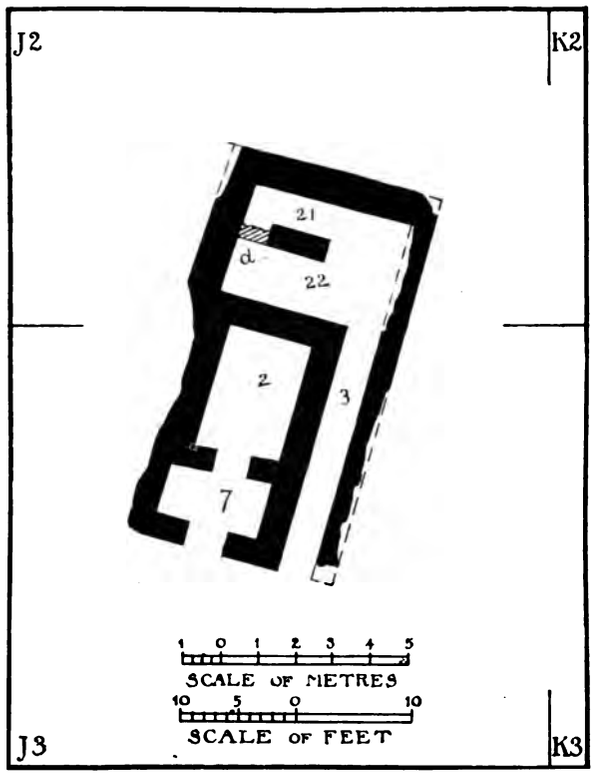


FIG. 32.—PLAN OF HOUSE OF PERIOD II.

inches) and probably they were not much higher originally; they average ·70 metre thick, and are covered with an earthy plaster. There are no traces of windows. The plan has some resemblance to that of the palace of the succeeding period.

The building H 2: 33[1]; H 3: 2, 3 (Fig. 34) consists of two long narrow rooms 2 and 3. A third room, or perhaps open space, 33 at the back, is entered from room 2 by the doorway *h*. There are also remains of a

[1] Wrongly lettered 23 on Pl. I.

FIG. 33.—VIEW OF ROOM 2 IN FIG. 32.

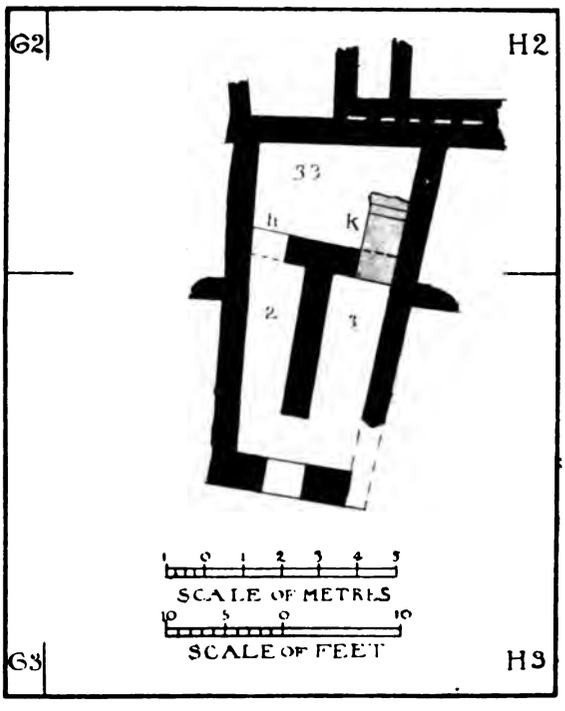
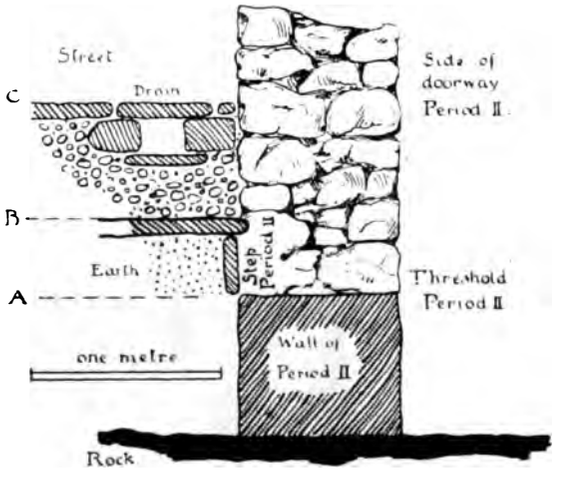


FIG. 34.—PLAN OF HOUSE OF PERIOD II.

flight of stairs *k*, leading up from 33 into 3 (Fig. 35) suggesting that the floor of 3 had been raised. It would appear that the level of the street to

FIG. 35.—VIEW OF STAIRCASE *k* IN FIG. 34.

the south had been raised more than once (Fig. 36). The threshold of the doorway *b* is ·75 metre above the rock. A step ·40 m. high is formed outside



A : Probable original level of street (Period IV)
B : " second " " (Period II)
C : " third " " (Period III)

FIG. 36.—SECTION OF STREET AND DRAIN (Plate I. H 3 : 13) AND OF DOORWAY (*b*).

this by a thin slab of stone placed on edge to form the 'riser,' and another laid flat on the top of it to form the 'tread.' Entirely covering all this is a

street drain of a later period, ·60 above the outer step. The remains in this house of a building of the first period have been already noticed (p. 36).

A building a few yards to the east and in the same street, has a strong general resemblance to the house just described (H 2 : 37 ; H 3 : 8, 9, 10, and Fig. 37). It consists of a large room 8 entered by a doorway *d*, and a small room 10 on the east side of it with a separate entrance. Whether 37 and 9 were rooms or open spaces does not appear; the wall between 37 and 8

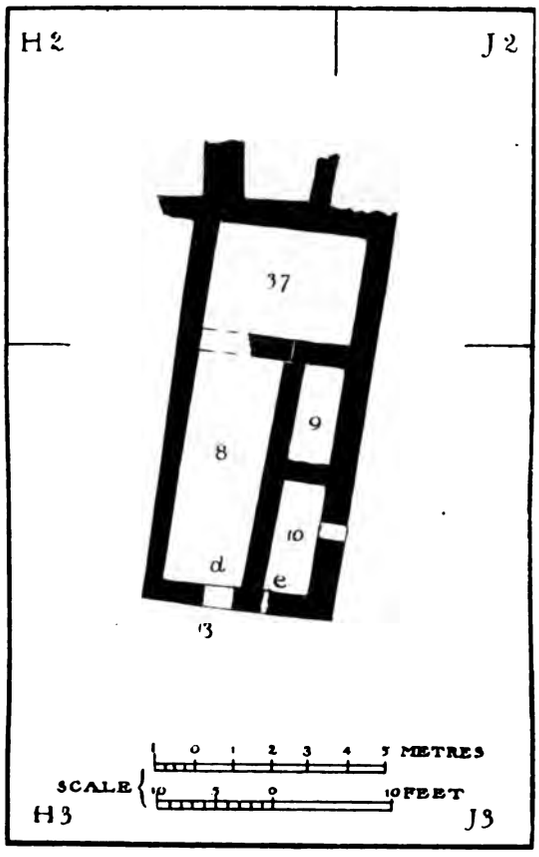


FIG. 37.—PLAN OF HOUSE OF PERIOD II.

is broken down so that it is impossible to say whether it contained a doorway or not. There is no doorway to 9. In the south wall of 10 there is a slit (*e*) ·80 m. high by ·25 m. wide; the object of this feature is not apparent. In the doorway of this house there are remains of an outer step like that in the house last described.

Methods of Construction.—The technique varies a good deal. The walls average ·65 m. thick; and most of them are of ordinary rubble. Wall

H 1 : *c* has courses of large blocks of basalt running into the wall, alternating with courses of thin slabs of limestone which we used to call 'ironstone' laid longitudinally, somewhat like the 'header and stretcher' system of modern brickwork (Fig. 38). The 'putlog' holes for the scaffolding are still

FIG. 38.—VIEW OF WALL *c* IN H 1 (Plate I.).

to be seen in this and in the adjacent walls. We thus have an indication of the system of scaffolding in use at the time the walls were built. The holes are 1·75 m. apart horizontally and ·85 m. apart vertically. This height is not much more than half the corresponding measurement in modern work.

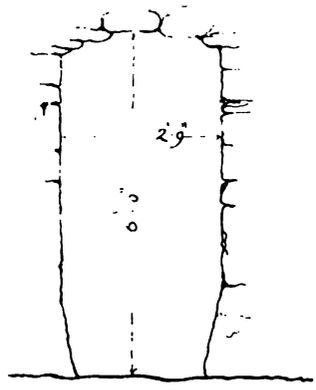


FIG. 39.—DIAGRAM OF DOORWAY *b* IN H 2 (Plate I.).

Four complete doorways remain. Two of these have been already mentioned (pp. 34, 42). The other two are at H 2 : *b* and *g*. That at H 2 : *b*, shown in Fig. 39, is ·85 m. wide and the original height appears to have been 1·70 m., but that at H 2 : *g*, shown in Fig. 40, is only ·47 m. wide and 1·25 m. high. All the four perfect doorways belong to this period. With the exception of that in the Great Wall which appears to have been covered by a lintel all the doorways are without lintel or arch or even any 'gathering-over' of the masonry. The walls were probably carried on strong wood frames and when once they were built they would need very little support over such narrow openings.

The square columns noticed above (p. 40) are of soft white limestone. The ordinary walls are built of varieties of hard limestone and of polygonal blocks of basalt. All the limestones can be quarried at no great distance, and the basalt can be obtained on the sea shore owing to the gradual destruction of the cliff on the other side of the bay.

In many buildings large quoins are not used,—the corners are formed with small stones and these being rough give a slightly rounded form to the angle. As in the preceding period clay is used instead of mortar and the walls are covered with a soft earthy plaster.

As to how the buildings were roofed we are of course left to conjecture. It is possible that the modern buildings of the island do not differ very greatly from those of prehistoric times, and so may suggest the method employed. The typical cottage of the present hamlet of Phylakopi is one storey high and flat topped. The roof is formed of horizontal rafters across which reeds are laid and on these a layer of white earth like that used for the floor. This forms a hard cake and is made to slope slightly to one corner so that the rain will run off. The walls are carried up a few inches to form a

FIG. 40.—VIEW OF DOORWAY *g* IN H 2 (Plate I.).

parapet. In the towns on the other side of the island the rain-water thus collected on the roof is conducted by pipes and troughs to a tank dug in the ground. By careful hoarding, the winter's rain is, in some households, made to last for the whole of the year. The first rain of the season, having washed the roof, is allowed to escape; for in hot weather the people sleep on the roof. The reeds, which are long and nearly as thick as a man's little finger, are sometimes allowed to show in the room below and sometimes are plastered over with ordinary plaster. If any of this ceiling falls, the pieces of plaster are, of course, smooth on one side and on the other show the grooves left by the reeds. It seems not unreasonable to suppose that this form of roof—the simplest form possible where the span is small—was that in use in the prehistoric city. Moreover, several pieces of plaster (Fig. 41) were found which were smooth on one side and grooved on the other, the grooves being the same size as the reeds used at present. Some of these grooves show a slight notch such as would be made by the ring formed on the reed at the base of

each leaf. These fragments are of very good plaster with plenty of lime; others of similar quality were thicker and had no grooves at the back; they

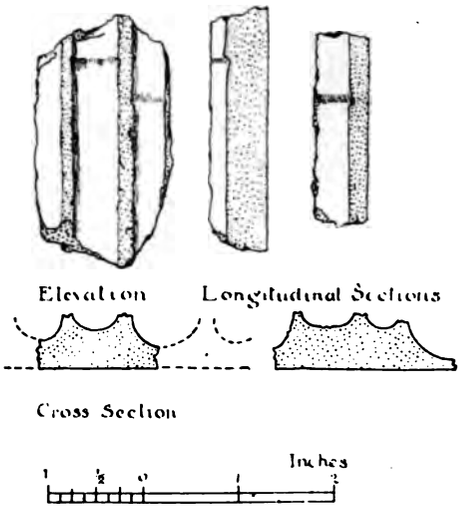


Fig. 41.—Details of Plaster Ceiling.

appear to have fallen from the walls; some of the latter are decorated with paintings which will be described in Chapter III.

§ 7.—*The Third Period.* (Plate II.)

General Plan of Town.—A reference to the block plan will show that several streets can be traced for a considerable distance. They appear to have been laid out systematically and meet at right angles, one series running north to south and the other east to west. The width varies from 1·25 m. to 2·5 m. Under several of the streets there run covered drains (Pl. II. and Figs. 36, 42). These are built of stone, the top and bottom being formed with strong flags while the sides are rough blocks; the average height is ·30 m. and width a trifle more. The upper layer of stone forming the cover of the drain is immediately below what we considered to be the surface of the road. One of these drains H 3 : 13 has been already noticed (p. 46). The streets appear to have been divided into sections by flights of steps, each section being nearly level. None of these stairs remain, but their position can be made out by the sudden changes in levels of the streets. Several instances of 'retaining walls' may be seen; some of them have bulged from the pressure of earth at the back (Fig. 59, Section PQRS, *e*, and 16).

The difficulty in distinguishing between covered and open areas remains as great in this as in the preceding period. The one open space about which there can be no doubt is the courtyard in front of the Palace.

Particular Buildings.—The number of houses of which a conjectural restoration can even be attempted is very small,—smaller than in the preceding

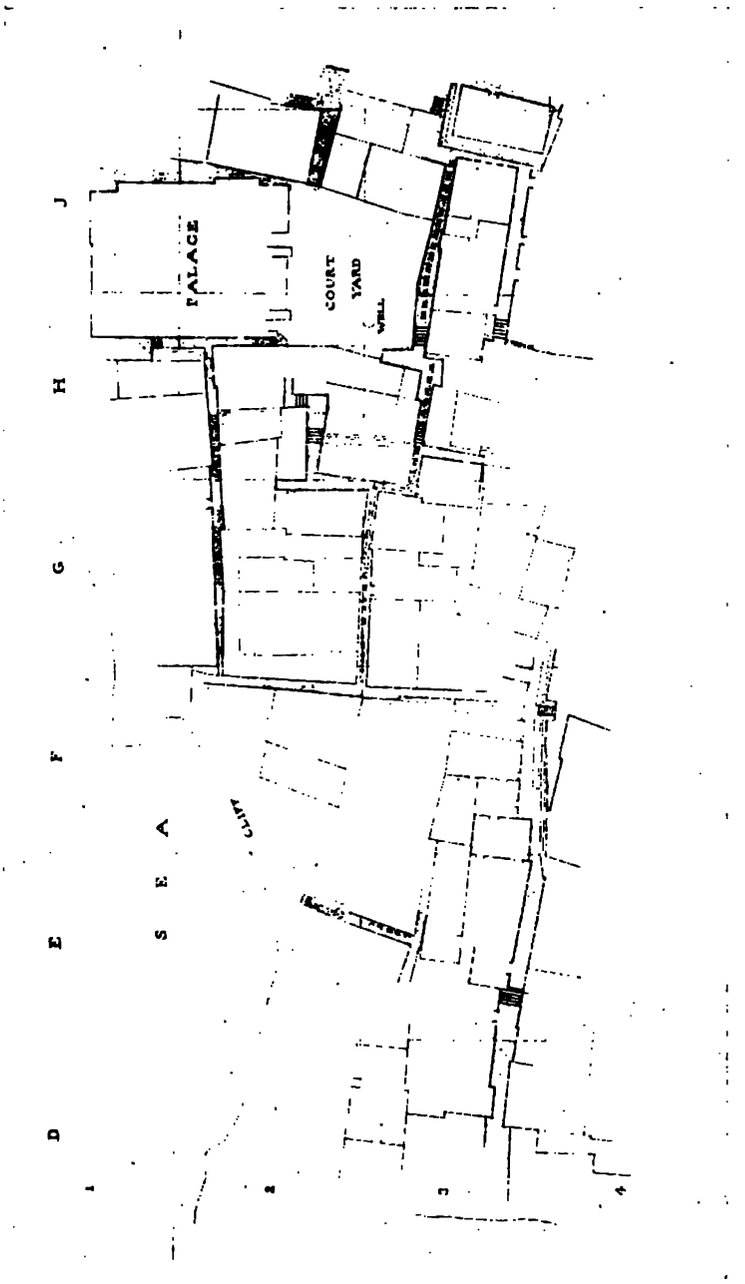


FIG. 42.—BLOCK-PLAN OF PART OF THE TOWN OF PERIOD III.
The darkest shade shows Streets, the middle tint Houses, the lightest tint Open Spaces (the two latter conjectural). The double dotted lines along the streets indicate Drains. The Steps and Retaining Walls of Terraces are shown by parallel lines.

period. The buildings in D 3, which at first sight appear fairly complete, are disappointing when a detailed plan is attempted. In E 3, and F 3, there

is a large block of building forming, apparently, one house, as all or almost all the rooms lead into one another. In G 2, again we find a building

FIG. 43.—A STREET CORNER (G 3).

which may be one house or two. The spaces 7, 8, 9, 14 may have been open to the street; 15, 16, 18, 19 may have formed one establishment; 24,

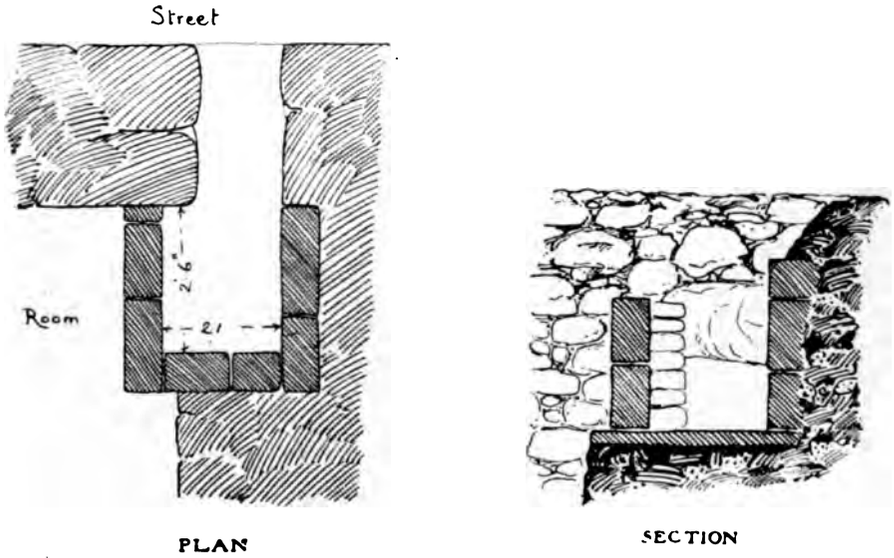


FIG. 44.—PLAN AND SECTION OF SMALL CHAMBER IN G 3 : 4.

25, 26 may have been a separate house and 27, 28, may have formed part of it. The house is devoid of detail, interesting or otherwise. The ' Fishermen '

lamp-stand (see pp. 123 f.) was found in room 18. The wall between 19 and 20 is an example of the double walls which we find between adjoining houses.

FIG. 45.—VIEW OF THE CHAMBER IN G 3 : 4.

The house G 3 : 4 contains in one corner a well-built structure of masonry which may have been a tank, a bath, or a sink (Figs. 44, 45).

FIG. 46.—OUTLET FROM CHAMBER IN G 3 : 4.

It has a large outlet communicating with the drain in the street (Fig. 46). The sides are built of white freestone, the bottom is a slab of harder stone.

The hole in the wall forming the outlet is 17 inches wide by 14 inches high. There is a similar hole 18 inches square in the wall of the next house (G 3 : *c*) but in this case the bottom of the hole is 2ft. 4in. above the level of the street so that it may have been a window.

A small house, remaining fairly perfect, is that at H 2 : 23 ; H 3 : 1. It is shown to a larger scale in Fig. 47.

The most nearly perfect building of this period is the small but completely detached house, J 3 : 18, 24, 28. It is surrounded on three sides by an alley (17) only ·50 m. wide. The width of the street on the east side was

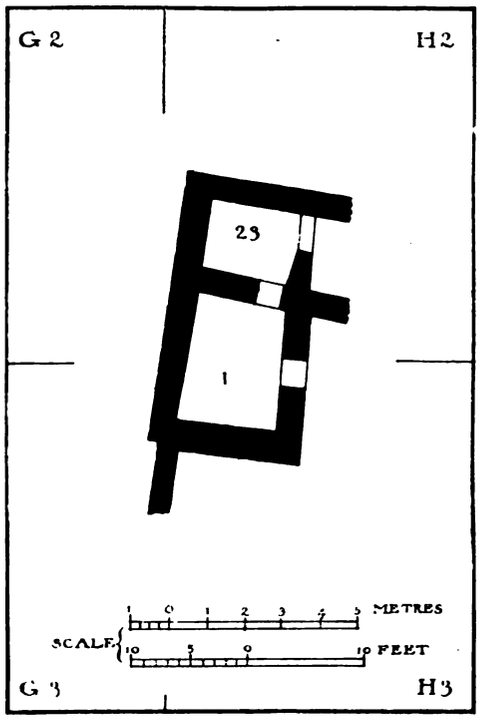


FIG. 47.—PLAN OF HOUSE OF PERIOD III.

not determined. The wall on the other side of the alley 17 is a retaining wall to hold back the high ground on this side (Fig. 59, Section PQRS, 16). The house (Fig. 48) originally consisted of a large room (18, 24) with a smaller one (28) opening out of it. The walls are ·60 metre thick, and remain standing to an average height of 1·50 metre. The larger room was entered from the street by a doorway in the middle of its east side. This doorway has freestone jambs, carefully worked but not rebated, and a threshold of the same material. At a later time a wall (*c*) was built across the north end of the larger room cutting off about two metres from its length.

This space (18) was found to be filled with hard material and the back of the new wall *c* had been left rough; it is therefore probable that it was intended at the time the alteration was made, that the part cut off should be so filled in. The object of the change is not very clear. When the space 18 was excavated, there appeared to be the remains of a drain (*b*) running partly through the room and partly under its north wall. This drain would be a continuation of that running down street 11 in J 3.

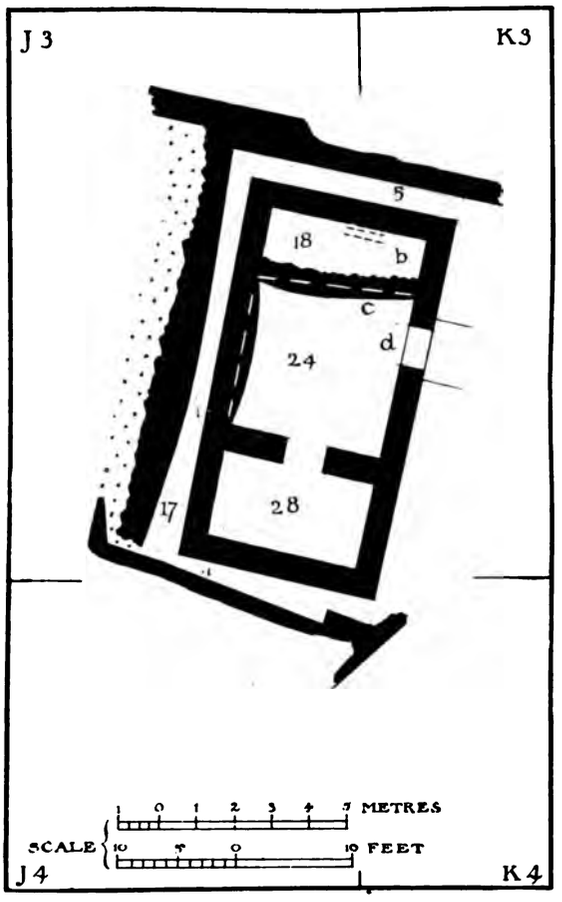


FIG. 48.—PLAN OF DETACHED HOUSE OF PERIOD III.

The Palace.—The last building which requires special notice is the Palace (H 1 : 5; J 2 : 1, 3, &c., Figs. 49, 50). This building is situated, not in the centre of the town, but considerably nearer to the eastern boundary than to the western. Neither is it on the highest land, being about half-way down the slope. It stands on the north side of an open space about 14 metres square, its entrance facing due south. It consists of a Megaron or Hall

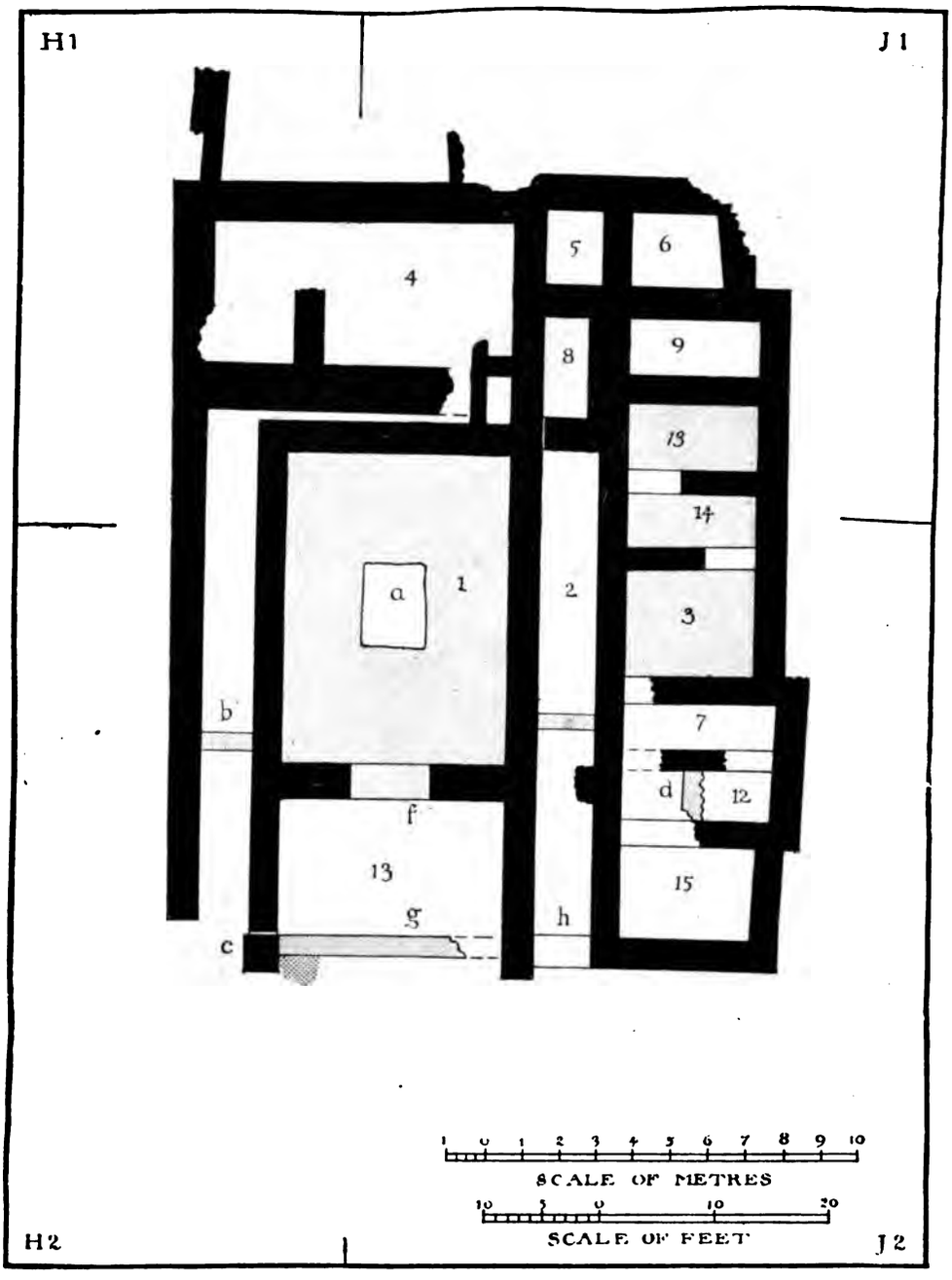


FIG. 49.—PLAN OF THE PALACE.

1 Megaron. 2 Passage. 4 Bath (?). 13 Portico. *a* Hearth. *b* Step. *c* Plinth of Anta. *d* Pavement. *f*, *g* Steps.

(1) with a portico (13) at the south end, a series of small rooms on the east side separated by a passage (2) from the megaron, another room or two (4) at the north end, and a passage along the west side. The portico is six metres wide and 4·60 metres deep from back to front. The side walls remain, and at the end of that on the west side, there is a square block of stone, (*e*) 1·5 metres by ·95 metre and ·60 metre high. This was presumably the base of an *anta*. On the top of this block there were found what appeared to be remains of charred wood, as if the *anta* had been faced with wood, but the evidence was too slight to be of any value. The outer step (*g*), in two large blocks of stone of slaty texture, remains almost entire, but there are no indications of columns. The Hall, the floor of which is on the same level as

FIG. 50.—VIEW OF STEP OF PORTICO AND PLINTH OF ANTA.

that of the portico, is entered by a doorway (*f*) 2·25 m. wide, with a freestone threshold in one block (·90 m. wide by ·35 m. high) remaining in place. The floor of the hall is formed of a layer of concrete or coarse plaster only two or three centimetres thick. In the middle of the room there is a rectangular space *a*, not covered with concrete, but with hardened clay. This doubtless indicates the size and position of the hearth. The walls of the hall stand to a height of ·25 m. above the floor, but contain no traces of doors other than that already described.

The rooms on the east side have floors and thresholds like those of the hall, but about ·30 m. lower. They were probably women's apartments. That at the north end was possibly a bathroom.

On the west side of the courtyard there is a well sunk through the rock (H 3: *a*, and Fig. 59. Section TU). The depth was not ascertained. The rubbish that filled it was cleared out to a depth of nine metres, but thereupon the water came in so fast that the work had to be given up. The well had been originally lined with earthenware cylinders ·75 metre in

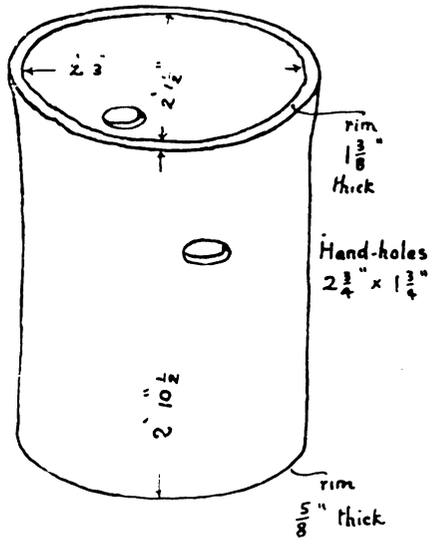


FIG. 51.—EARTHENWARE CYLINDER FROM THE WELL.

diameter and one metre high (Fig. 51). One rim of each cylinder was roughly shaped into a socket, so that the next one would fit into it. 'Hand-holes' were also made in the sides of the cylinder so that a man could climb down when necessary to clean the well or for other purposes.

Methods of Construction.—The quality of the work varies considerably. Generally speaking the work is not so careful as that of the Second Period. On the other hand there is some excellent workmanship, such as examples of wrought basalt, to be described presently. In some cases the walls are very well built, in others badly. The thickness varies between ·50 m. and ·70 m., if we leave out of account those thick walls which are probably two walls built side by side. Lime-mortar appears never to have been used except as a coating to the face. Unfortunately no wall stands to a sufficient height to show a complete doorway or any remains of a window—unless the hole in the wall at G 3: *c* is to be considered a window. The doorways are of three classes. That of which most examples remain have rough jambs, more or

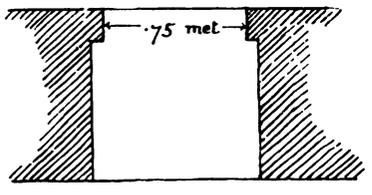


FIG. 52.—PLAN OF A DOORWAY WITH REBATED JAMBS.

less carefully built, of the same stone as the walls. In other doors the jambs are plain but of freestone carefully squared and dressed. The third class has jambs of the same stone as the last but worked with a 'rebate' or nook into which the door would fit like a modern doorway (Fig. 52). Examples of this are seen at F 2 : *b*; J 3 : *h* and *o*. In whatever way the wall was carried over the rough doorways of the first class, there can be little doubt that those of the two latter classes had good stone lintels corresponding with the jambs.

A basalt doorstep at E 3 : *f* indicates yet another way of finishing a doorway (Figs. 53, 54). Near each end of the step there is a shallow groove 7 centimetres wide, running across the top from the inner to the outer edge. In each groove there are two holes 6 centimetres wide and 6 centimetres deep. The lowest course of one jamb remains; it is of rough stone and runs straight through the wall. This arrangement without doubt

FIG. 53.—STEP AND THRESHOLD OF DOORWAY *f* IN E 3.

shows that the rough stone jambs were each faced with a thin slab of stone or wood resting in the groove and with tenons let into the holes. The head of the doorway must have been covered with a lintel furnished with similar grooves and mortises to secure the upper ends of the slabs.

Inside the houses the walls were probably always coated with ordinary plaster made of lime and sand, of which traces remain on the walls of K2 : 3, or with a chalky earth beaten up into a sort of plaster.

The floors were doubtless of several kinds. The plaster floor of the megaron has been already noticed and there are also remains of pavements of thin slabs of hard stone in several places. It is possible that most of the floors were of the light-coloured earth still used in most houses in the island. This earth is beaten to quite a hard surface, and when the floor becomes uneven through wear it is rubbed smooth again with a stone. In several

places masses of clay partly burnt on one side were found. These may be the remains of clay hearths, which would of course be gradually baked on their upper surfaces. The flat roofs and reed ceilings already suggested in describing the house of the Second Period (p. 50) may with equal probability be supposed to have continued into the Mycenaean age.

This period affords no examples of the square stone columns of the

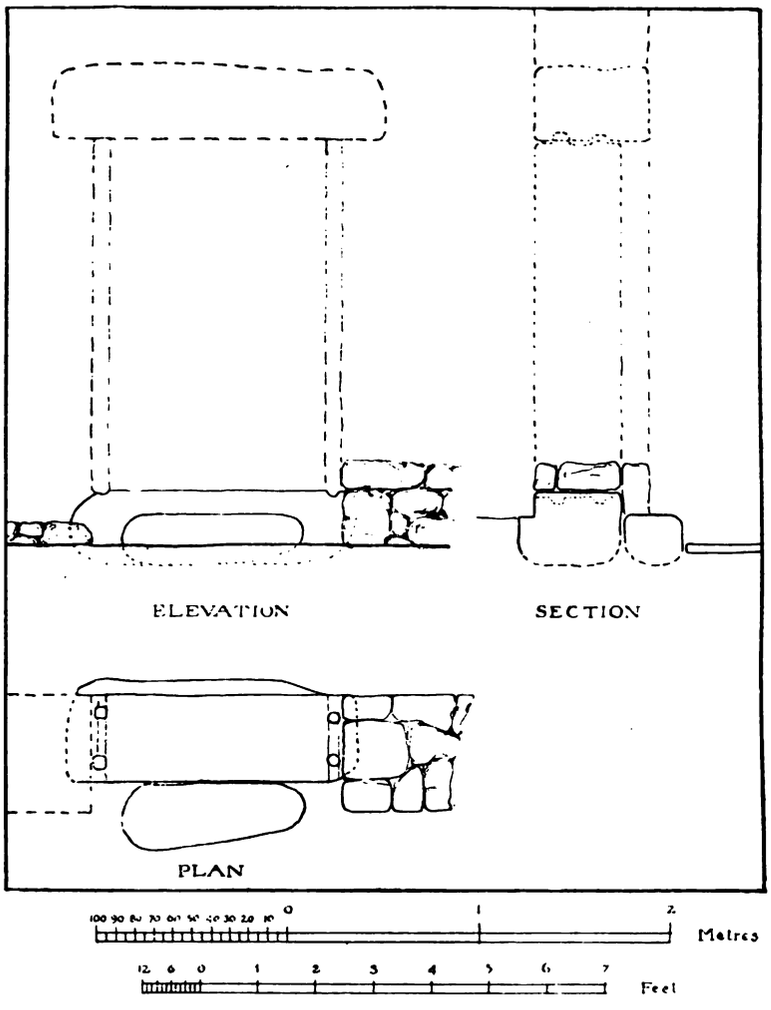


FIG. 54.—CONJECTURAL RESTORATION OF DOORWAY *f* IN E

Second city (p. 40) nor of any other form of column. Two bases, however, were found which belonged probably to this period. One, possibly *in situ* in E 3 : *b* and shown in Fig. 55, is of basalt; the upper part is circular, 28 cm. in diameter, and 7 cm. high; the lower part, probably hidden by pavement and

still partly buried, is left rough. The other base which was found in G 3 : 2 was not *in situ* (Fig. 56). The general form is similar to the other, the upper part is circular but the lower is worked to a true square. It may be fairly supposed that all columns were of wood.

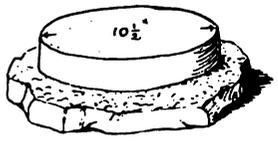


FIG. 55.—BASALT BASE OF COLUMN (E 3 : *b*).

The varieties of stone are the same as in the preceding period. Large rounded boulders of basalt from the beach are occasionally used in foundations. A somewhat similar stone well-squared with the hammer is used for quoins.

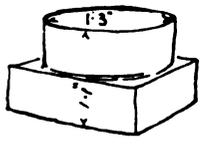


FIG. 56.—STONE BASE OF COLUMN (G 3).

Several large stone vessels of various sorts were found, but these probably are to be considered as utensils rather than permanent parts of buildings, and so will not be described here.

A length of earthenware channel, for conducting water (Fig. 57), found

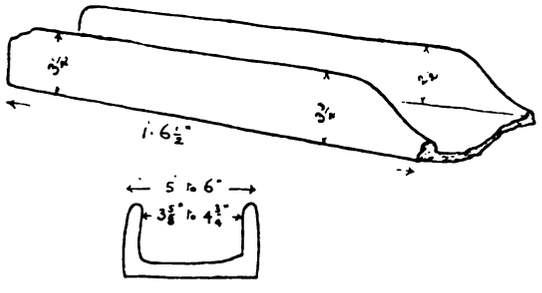
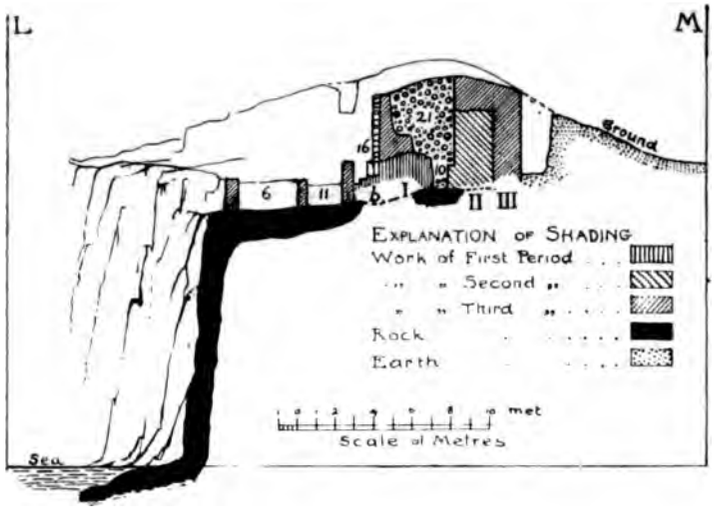


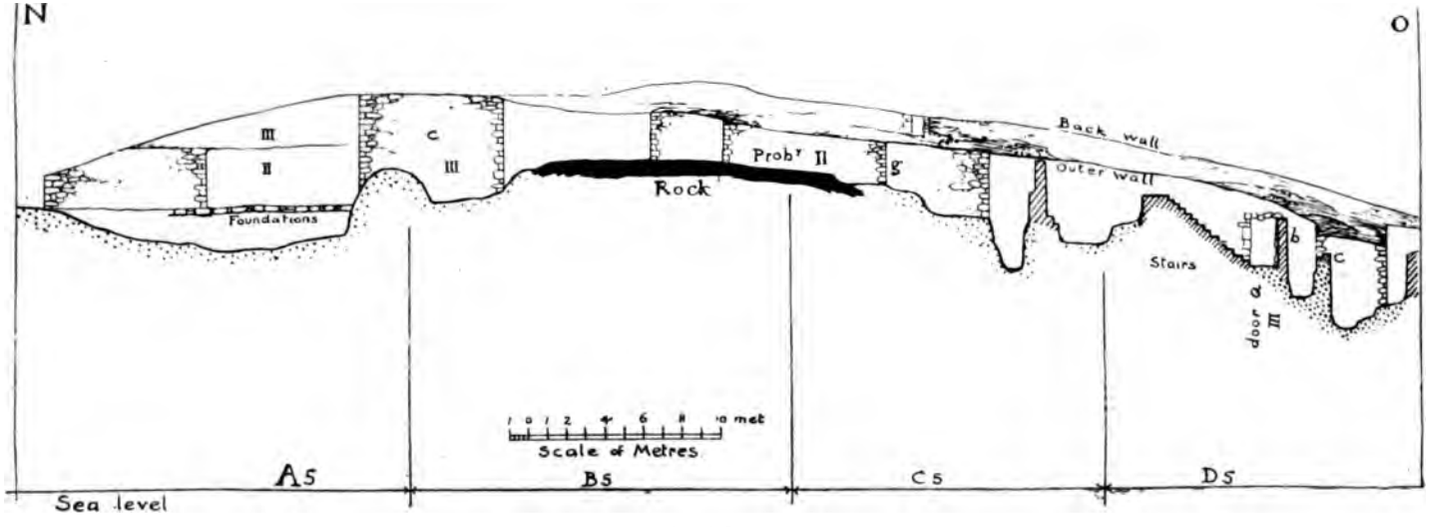
FIG. 57.—EARTHENWARE CHANNEL (G 2 : *c*)

at G 2 : *c*, apparently *in situ*, deserves mention as a neatly finished piece of work. The large earthenware cylinders which lined the well are the most striking proofs that were found of the skill of the people as potters.

T. D. ATKINSON.

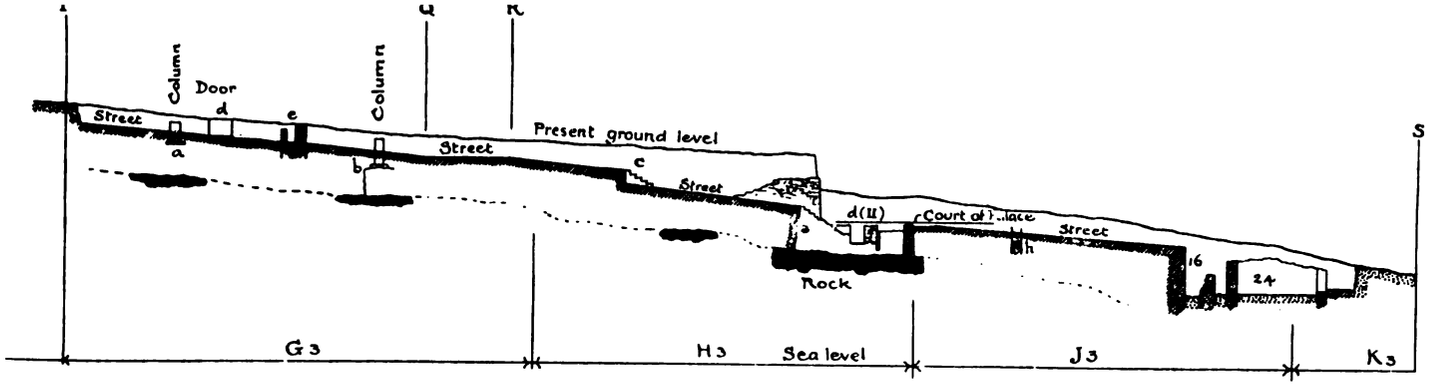


SECTION ON LINE L M.

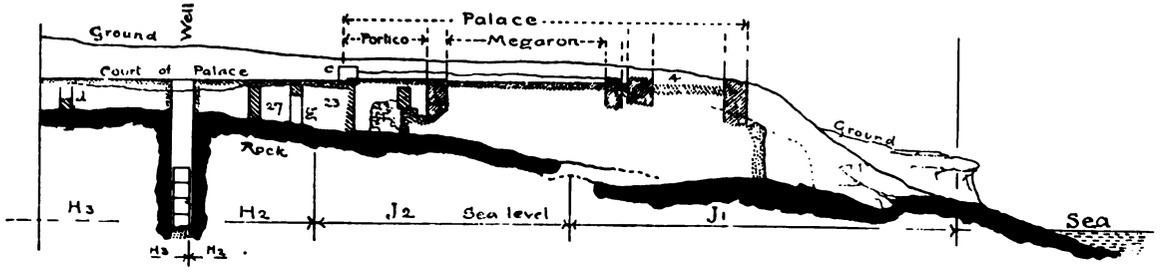


SECTION ON LINE N.O.

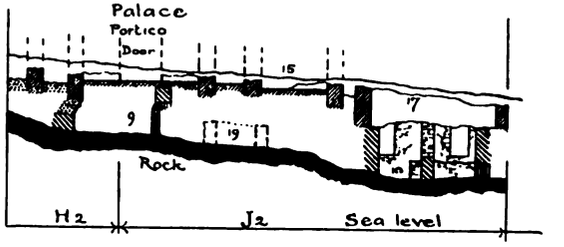
FIG. 58.—GENERAL SECTIONS: LINES LM, NO.



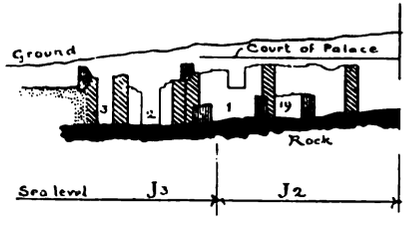
SECTION ON LINE PQRS LOOKING NORTH



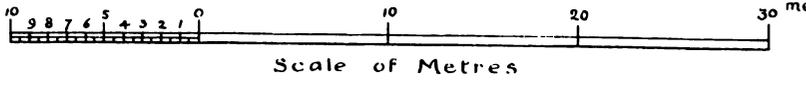
SECTION ON LINE TU LOOKING WEST



SECTION ON LINE WX
LOOKING NORTH



SECTION ON LINE YZ
LOOKING SOUTH



EXPLANATION OF SHADING

Work of First Period . . .
" " Second " . . .
" " Third " . . .
Rock . . . . . .
Earth . . . . . .

FIG. 59.—GENERAL SECTIONS: LINES PQRS, TU, WX, YZ.

EXPLANATION OF PLAN OF FIRST AND SECOND PERIODS.

(PLATE I.)

I. *means First Period.* II. *means Second Period.* III. *means Third Period. Arabic figures refer to spaces; small letters refer to particular objects.*

A 5 *a* Probably I.
b Triangular levelling of the rock with a round sinking in the middle.
c In the upper part of the wall (Period III) this break is omitted.
d Great Wall, outer part. Very good work with good footings.

B 5 1. 4. 9. 10. 13. Obsidian flakes found on floors and under walls of III.
a Wall, possibly of II.
b Doorway with squared jambs of white limestone and with a projecting step in a wall of I which runs under the inner part of the Great Wall.
c Wall, possibly of II.

C 5 1 Obsidian chips found as in B 5 : 1-13.
a Good walls built with large stones.
b Doorways in walls of I.
c Great Wall; possibly of II refaced in III.

D 3 *a* A shaft about 10 feet deep revealing walls of I. and II.

D 5 *a* A small piece of wall at the bottom of and projecting beyond the face of the Great Wall (III.) and apparently of an earlier Period.

E 3 9 On the N. and W. sides there are walls of I. (scarcely visible in the plan).
15 Space covered with an earth floor of II.
16 Shaft revealing walls of II, and, below these, walls of I with two doorways.
a Doorway in wall of Period II.
b Straight joint.
c Doorway.

F 2 19. 20 The wall between is irregular; it seems to have been repaired at different times.
a Earth floor of II.
b Straight joint.
c Door or window; blocked in III.

F 3 3 Space not excavated below the level of II.
5 The N. and W. walls of II contain doorways.
a Earth floor, perhaps of II.
b Cross wall, now destroyed, indicated by the toothing in the wall to the S.
c This wall is probably of Period II.
d There are remains of a wall of I below this spot, seen by tunnelling from F 4. 1.

F 4 1. 2 The remains are at a lower level than the street of Period III, F 3. 25, and are of doubtful age.

G 1 *a* Limits of levelling of rock; age doubtful.

G 2 11 Alley of II.
a Recess or blocked doorway.
b Wall of unknown age, below III and above the wall of Period II.
c Probably II.
d Blocked doorway of II.
e Doorway in I.
f Wall of II below the level of the street of III.

G 3 6 The fallen fresco, of II., representing fishes (Plate III.), was found in this room in 1898.

18 The upper walls are of doubtful age; probably II.

a Column of II. standing on wall of I. (fig. 9).

b Column of II. (fig. 8).

c Doorway of II.

G 4 1, 2 The remains are at a lower level than the street of Period III., G 3 : 33, and are of doubtful age.

H 1 1, 5, 11, 12 and 2, 6, 13. Two houses of II. The original parts are very well built; the later work shown by hatching is very inferior.

a, *c*, *d* Walls with put-log holes.

b Doorway or window blocked up by wall of next house.

e The wall between 8 and 9 appears to be of II. and to have been cut through at *e* to make room for the wall of the palace of III.

f Complete doorway (fig. 30).

H 2 2 Street of II. (and III.); the part east of *a* has been excavated about 11 feet lower than the part to the west; it is of Periods II. and III.; the part to the west of *a* has not been excavated below the level of III. It is probable that at both periods the east part was about 6 feet lower than the west part and that there were steps at about the point *a*.

13 The west wall has doubtful traces of a very thin finishing coat of lime-plaster over the rough earthy plaster. This is very fragile and cannot last long.

For 23 read 33.

a Probable position of steps in street.

b Complete doorway (fig. 39).

c Perhaps a doorway.

d Apparently a blocked-up doorway.

e Remains of a doorway in wall of I.

f Probably a doorway in wall of II. The south jamb remains; the wall to the north has a ragged end.

g Complete doorway (fig. 40).

h Wall carried under doorway, forming a threshold.

k Steps of II.; either three steps or two steps and part of the lower floor remain.

H 3 13 Perhaps a street of II.

a Stone pavement of I. The wall immediately adjoining it is lined with slabs of similar stone.

b On the outer face of this doorway there was a slab of stone set up on edge forming apparently a step. Perhaps the level of the ground outside was raised after the building of the house and it became necessary to form a step down into the house (fig. 36).

c If 13 was a street there was probably a flight of steps here.

d There is a slab of stone at this doorway like that at *b*.

e Hole formed in the wall at the time of building, about 2 ft. 7 in. high and 9 in. wide, the bottom being level with the top of the foundations.

f Foundations.

g Probable position of wall; a fragment remains where it joined the wall to the west.

H 4 *a* Trial shaft revealing walls of I. and II. (and walls of III.; see below).

J 1 7 Excavation shaft with small opening to north of palace, enlarged lower down by under-mining the walls of palace. Now filled up.

J 2 17 Probably a street of II. with steps where the wall crosses it.

a Channel running along the side of wall of I.

b Apparently the filling up of a doorway of I. Should be hatched (see Fig. 24).

c Probable position of a wall of I. of which the toothing is seen on the wall to east.

d Blocked up doorway.

J 3 9 Position of a street of III. and perhaps also of II. Not excavated below the level of III.

EXPLANATION OF PLAN OF THIRD PERIOD.

(PLATE II.)

I. *means First Period.* II. *means Second Period.* III. *means Third Period. Arabic figures refer to spaces; small letters refer to particular objects.*

A 5 4. 7 Ditch (Fig. 15).
5. 6 Spaces originally filled with stone.
a Inner part of Great Wall.
b Outer part of Great Wall.
c. d Stone kerb to outer bank of ditch (?).

B 5 21-24 Space originally filled with stone.
25 Ditch.
a Slab of wrought stone, apparently *in situ*.
b This wall batters.
c The whole of this projection appears to have been built from the bottom in Period III., whereas the rest of the outer part of Great Wall would seem to have been first built in II. and heightened in III. The bottom of the foundations of the projecting part is six feet higher than those of the main wall to the west, and the work is not quite so good.
d Straight joint.
e Stone kerb to outer bank of ditch (?).

C 5 2. 4 The narrow part of the wall between these two spaces is pierced by a rectangular hole formed at the time the wall was built.
12. 13. 14 Chambers in the Great Wall.
15 Space originally filled with stone.
16 Ditch.
a Good walls built with large stones; probably II., continuing in use during III.
b Wall at a low level, perhaps footings of the Great Wall.
c Straight joints with quoins to east.
d Doorway 2 ft. 5 in. wide; formerly about 3 ft. wide.
e Well-formed projecting outfall to a drain.
f Great Wall; possibly II., repaired in III.
g Straight joint with quoins to west; a slight set-back in the wall.
h Great Wall, probably III.
k Straight joint with quoins to west.

D 2 *a* A hole cut through the later wall during excavation to expose the earlier wall.
b Doorway blocked up.

D 3 9. 10. 17 Paved with stone.
18 Street; partly paved with stone.
a Probably footings.
b The remains are indistinct but there was probably a doorway here, for the pavement of room *g* appears to be continued into room 8.
c Probably the jamb of a doorway.

D 4 *a* Blocked-up doorway.
b Modern wall.

D 5 11. 14 Spaces originally filled with stone.
13 Passage leading from within the walls to the foot of the stairs.
16 Stairs.
17 Space probably originally filled with stone.

18. 19 Possibly a passage originally leading from without the walls to the foot of the stairs.
20 Ditch.
a Doorway (see Fig. 19).
b Perhaps a late wall blocking passage 18. 19, but possibly original.
c A threshold, or remains of a wall or of a pavement.
d Outfall to a drain, no projection seen in C 5. *e*.
e Slight wall at the bottom of the ditch.

E 2 *a* Drain; now partly destroyed.

E 3 6. 8 Apparently an open paved space.
25 Street, with remains of stone paving.
a Apparently remains of a wrought stone pavement.
b Base of a column, apparently *in situ* (Fig. 55).
c Remains of stone pavement.
d Stone pavement.
e Perhaps a step.
f Doorway with steps of basalt (Figs. 53, 54).
g The level of the street drops to the east here; probably there were steps.

E 4 8. 9 The wall between these is of doubtful age, but is earlier than the adjacent walls.
a Drain, 13 in. by 12 in.; period doubtful.
As this part has been only partly excavated it is impossible to assign the walls to particular periods with any certainty.

E 5 *a* Drain at bottom of ditch.
b Slight wall at bottom of ditch.
c Probable original face of wall.

F 2 2. 6 Streets.
a Traces of a stone pavement.
b Doorway with rebated jambs.
c Originally a doorway or window in a well built wall of Period II.; blocked-up and a drain carried through in III.
d Stone sink *in situ* (Fig. 6).

F 3 11. 23. 25 Streets.
a Modern wall.

F 4 The remains are of doubtful age; they are at a lower level than the street of Period III., F 3. 25, the wall between being a retaining wall.

F 5 *aa* Work covered by shot earth since Mr. Hoare's plan was made.

G 1 *a* Limit of levelling of the rock.
b Walls of unknown age; below those of III.

G 2 5. 6 Alley.
18 Room in which the 'Fishermen Lamp-stand' was found in 1898.
23 Street.
31 Street.
a Wall of unknown age; above that of Period II. and below that of III.
b Drain.
c Branch drain above the level of the threshold of door; partly of stone and partly of earthenware channel (Fig. 57).
d Remains of a doorway.
e Earth floor above walls of II.
f Doorway.
g Drain.

G 3 1 Street.
2 Round stone base with square plinth, probably of III., found in this room, not *in situ* (Fig. 56).
6. 28 Street.

a Drain.
b Outlet from sink.
c Hole in wall about 18 in. square; the bottom about 2 ft. 4 in. above level of street.
d Threshold.
e Stone chamber (Fig. 44).
f Blocked-up doorway.

G 5 *a* Great Wall.

H 2 3. 5. 6. 12 Street; there is a drain in 5.
16 Perhaps a street.
a, f Probably there were steps here; the ground slopes down to the east.
b Perhaps a step.
c Pedestal of *anta* of portico.
d Remains of stone pavement.
e Late wall.
f See above.

H 3 11. 12 Street.
14. 26 Probably streets.
a Well. It was lined with earthenware cylinders. One of these, broken into several pieces, was taken out (see Fig. 51)

H 3 *b* Drain.
c, d There were probably steps here.
e Probably a retaining wall; originally built straight, now bulging.
f Foundations or remains of early walls.
g Probably a late wall.

H 4 1 Trial shaft, revealing work of all periods.
a Wall of uncertain age, probably late.

H 5 *a* Great Wall.

H 6 *a* Great Wall.

J 1 2. 3 Fragmentary walls of uncertain age; the ground here is about 18 feet below the level of the palace floor.
12 Remains of a clay floor (?) were found over walls of Period II.

J 2 1 Hall of Palace.
2 Passage.
13 (numbered 18 in the plan) Portico (Fig. 50).
18 Courtyard of Palace.
20 Street.
a The concrete covering the floor is omitted here and the space is covered with clay indicating the position of the hearth.
b A shaft was sunk here to try for walls of II. (see other plan).
c, d Steps or thresholds.
e This wall is probably very early III.
f Step or threshold.
g Step to portico.
h Step or threshold.
k Walls showing on the surface, probably modern.
l Wall across entrance to street, probably there were steps here.
m Apparently a step.
n Hole in wall.
o Late wall destroyed during excavation.
p Blocked doorway.

J 3 2. 4. 8 The house drawn in outline is of Period II.; it is shown here in order to make the arrangement more clear.
11 Street.
17 Area round house 18, etc.

J 3 18. 24. 28. etc. House with the walls preserved nearly entire.
25 Probably a street.
a. b Fragmentary remains of wall on the top of wall of II., with traces of a doorway.
c Walls of II.
d Wall probably of III. blocking passage 2 of periods II. and III. It is carried down to the rock like walls of passage. Its object is not apparent, as it blocks the only entrance to J 2, 22, 24.
e Rough foundation.
f Drain.
g Hole in wall at level of street.
h Doorway with rebated jambs.
k The wall between 13 and 14 appears to have turned to the east here originally, thus separating 14 and 22; the lower part only of this return wall now exists but the old quoins remain; the wall between 13 and 14 has been continued south.
l Perhaps a doorway.
m Apparently the end of or an angle in the wall between 21 and 25; there are quoins; the wall does not touch the wall between 21 and 22.
n This piece of wall is low; the street may have gone over it.
o Doorway with one rebated jamb remaining.
p Apparently a retaining wall.

J 5 *a* Great wall.

K 2 3 Traces of plaster remain in south and east walls.

K 3 *a* Perhaps a step.
b Indications of a drain, apparently partly under the wall; evidently a continuation of drain J 2. *f*.
c Late wall built across end of house and space at back filled with rubbish; very much bulged.
d Doorway with well-built jamb, a good threshold; and an outer step at a higher level.

K 5 *a* Great wall.

L 1 2 Wall at lower level than the adjoining walls.

L 3 1. 2 Trial shafts.
a Drain, probably a continuation of J 3. *f*.

L 5 *a* Great wall.

NOTE.

I wish to acknowledge the assistance I have received in the illustrations to this paper. The Town Wall in the squares A 5 to E 5 was surveyed by Mr. C. R. R. Clark in 1897. I have incorporated his excellent plan in the two accompanying plates, only verifying some details and distinguishing the different periods. The continuation of the Town Wall from square F 5 to square L 5 and the north-western part of the site about as far as the middle of G 2, G 3 were accurately plotted by Mr. E. B. Hoare in 1898. His plans were extremely useful to me, but as some further excavation was made in 1899 and as it was necessary to verify all the details especially in separating the different periods, I decided to survey nearly the whole of this part afresh.

The general sections LM and NO are by Mr. Clark; the others are by myself. All the other plans and drawings are by myself. The views are from photographs by Mr. Hogarth.

T. D. A.

CHAPTER III.

THE WALL-PAINTINGS.

[PLATE III.]

§ 1.—*The Frieze of the Flying-fish.*

EVEN before the beginning of the excavation certain pieces of white and crimson plaster picked up on the seaward face of the mound had suggested that Phylakopi might yield remains of wall-paintings comparable with those of Mycenae and Tiryns. The hope thus aroused at our first visit, in April 1896, was more than fulfilled two years later when the fragments of the Flying-fish Frieze, among the most beautiful of Mycenaean works of art, were dicsovered in a small room of the Second City (G 3 : 6 and 7). A fraction of the design, all that it has been found possible to piece together, is here reproduced for the first time in colours after a drawing by M. Gilliéron (Plate III.). The height of the original is nearly 23 cm., including a border 2 cm. wide above and below, which is separated from the picture proper by a line impressed on the wet plaster with a tightened string. The portion represented in Plate III. is only 21 cm., or a little over a foot long, but there are fragments enough to show that the original formed a frieze at least four times that length, perhaps much longer. Among them is a piece which gives the left extremity of the design; there is no border here, but the outer edge of the plaster is flat and smooth like the upper and lower edges, a fact to which I shall reeur. The composition at this left-hand end began with a fish swooping downwards to the right; the space below and to the left of it is filled by a mass of the conventional rocks that limit the whole picture above and below. The right extremity is not preserved. Much labour has been expended in the attempt to piece together the scores of crumbling minor fragments, without much result; it is some consolation that none of them shows any feature materially different from those that appear in the Plate. The same fish are repeated again and again, darting upwards or downwards with wings now closed, now outspread: above and below them a fantastic

rocky wall, clothed with sponges and striped sea-eggs.[1] But it is not the mechanical repetition of a stencil-pattern; the draughtsman knew how to vary his design in details without interrupting the rhythmic movement that ran from end to end of it. The general effect of the delicate colouring and lifelike drawing is singularly like that of Japanese paintings of birds and fish.

Four colours were used—black, for the border and outlines: light-blue, a favourite colour of the Minoan painter, for the heads, backs, and part of the wings of the fish, and for the spray or bubbles round about them: yellow for their bellies and part of their wings, for bands alternating with light-blue on the sea-eggs among the rocks, and for certain masses sprinkled with black points which can hardly be other than sponges. Nothing remains of a fourth colour, which once covered the rocks and part of the wings, except a difference in the texture of the surface, recognisable even in the Plate, which betrays the presence of a faded pigment; it is likely to have been red, since red is regularly used in pictures of this period. We have to imagine the outline of the rocks, now faint and uncertain, filled in with a deep tint which would heighten the contrast between their grotesque forms and the graceful lines of the living bodies beside them. A water-colour sketch made by Miss Hogarth soon after the discovery shows that the blue was then somewhat brighter than it is now.

The same colour-scheme, clear tints of blue, yellow, and red with black outlines on a white ground, appears on many of the wall-paintings at Cnossos, and in particular on a small series associated with the Phylakopi group by the introduction of human figures drawn in outline. In point of subject a parallel is furnished by the great picture of swimming fish described by Mr. Evans in *B.S.A.* No. viii. p. 58, which though on a larger scale, and portraying not flying-fish but dolphins and a variety of other kinds, is similar in style and technique, and makes the same use of 'azure wreaths and coils of dotted spray' to indicate the sea. So strong is the resemblance that we may safely claim the Flying-fish Frieze as a product of Cretan art. I have already referred to the fact that the edges of the plaster on which it is painted have a smooth flat surface, as though the picture had been enclosed in a wooden frame, not painted on an existing wall. The same holds good of the other marine piece found with it (see § 2). It is not impossible that framed plaster panels, ready-painted, were exported from Cnossos to neighbouring towns.

Flying-fish of the species *Exocœtus evolans*, called by the modern Greeks χελιδονόψαρα on account of their swallow-like skimming flight, are often seen in the Mediterranean. The Mycenaean painter has rendered their general form and colouring (which is "bluish along the back, lighter on the sides and beneath") with remarkable accuracy. One is tempted to believe that he drew his inspiration direct from nature and was not merely repeating

[1] It is uncertain what the objects which I have called "sea-eggs" were meant to represent. Red stripes appear on some of them in the larger marine painting (Fig. 60 below).

traditional types. There is reason, however, to think that flying-fish were a favourite motive in the design of the period.

Representations of them in glass paste have been found at Cnossos (excavations of 1903) together with rockwork of the same material, in the remains of a shrine belonging to the earlier period of the Palace; Mr. Evans believes that they formed a decorative panel in low relief. They also appear on a clay seal-impression found at Cnossos, and in glass paste among the ornaments from the tomb at Spata.[1] It is possible that they were represented on an inlaid sword-blade deposited in the Vaphio tomb; the blade has perished, but fragments of the inlay were recovered in the excavation; among them is a gold wing in open-work and a complete fish of some other kind (figured in Perrot et Chipiez, *La Grèce Primitive*, p. 106). The shaft graves of Mycenae furnished two representations of dolphins in lively movement, engraved on a gold cup, and modelled in plaster on the surface of an ostrich-egg.

§ 2.—*The Fragments of Larger Pictures.*

In the same room with the flying-fish were found fragments of other paintings on a larger scale. One was a second sea-piece, the remains of which

Fig. 60.—Fragments of Painted Plaster: Marine Design. (1 : 4.)

are distinguishable by the absence of the black border, by the greater size and coarser drawing of the rocks, and by the fact that the sea is coloured blue, not merely indicated by wreaths of spray. The fragments are relatively few, and seem to come from the upper or lower part of the panel; nothing remains of the central part and of the fish which one may suppose to have been painted there. The most interesting are collected in Fig. 60: on the right a characteristic piece of knobbed rock with a sea-egg attached to it, then a longer strip of rock showing in the foreground another sea-egg and a rounded blue mass covered with a familiar Mycenaean pattern of overlapping scales drawn in black, which may be interpreted in several ways.

[1] *B.C.H.* ii. Pl. xvi. 1 and 2; on p. 201 they are wrongly described as dolphins.

FIG. 61.—FRAGMENTS OF PAINTED PLASTER: BODY AND ARMS OF A SEATED MAN. (1 : 2.)

The surviving portions of another picture are shown in Figs. 61 and 62. The former is a seated man (chest, fore-arms, hands, waist, and knees preserved) holding up a piece of drapery (blue with black lines), in his left hand. He wears a bracelet on each wrist and a belt at his waist, all painted yellow and probably meant for gold. Below the metal belt is a twisted sash of light blue, and below that a variegated waist-cloth, blue, red, and yellow, embroidered with a design the meaning of which was first made out by the experienced eye of M. Gilliéron—two birds placed back to back with wings outspread. Red is used for the little triangles along the feathers, as well as for the spiral lines in the bracelets, and for the finger-nails, which were

FIG. 62.—FRAGMENTS OF PAINTED PLASTER: ARMS AND SHOULDER OF A HUMAN FIGURE. (1 : 2.)

perhaps stained in the Oriental fashion. Of the other figure, apparently male, we have the neck, adorned with a necklace tied in a bow behind, the shoulders and the upper arms; he was stooping forward with arms close together as if holding out some offering. There are traces of hair on the neck.

The fragments of the large sea-piece and those with the human figures have two features in common: both series exhibit a well-preserved red, and both were painted on a plaster ground which had originally been crimson and was afterwards covered with a white coating. Possibly they formed a single picture. In that case the seated man may be handling a net, and the blue

scale-covered object on the rocks may be another net or a basket-trap (*κύρτη*) such as is still used in the Aegean. A fragment (Fig. 60 on the left) representing a coil of rope lends some support to the view that the subject is a fishing-scene. I can offer no satisfactory explanation of Fig. 63, but it forms part of the series; it may represent vegetation.

The action of the seated man (Fig. 61), and the nature of the object, drawn like a piece of drapery, which he holds in his left hand and touches or draws aside with his right, have been much discussed. Eminent authorities have suggested that he is striking the strings of a harp or holding the reins of a chariot. Both views are open to the objection that the painter who drew a necklace and a coil of rope with such minute fidelity would have

Fig. 63.—Fragment of Painted Plaster. (1 : 2.)

devoted the same attention to the details of a harp or a bunch of reins. A better-preserved version of the scene may some day come to light and decide the question. The rich apparel of the seated personage probably denotes royal or official rank, while the stooping attitude of the second figure seems to mark him as a servant or tribute-bearer.

§ 3.—*The Design of White Lilies.*

From G 3 : 11, a room opening out of that which yielded the pictures described in the two preceding sections, came a quantity of dark crimson stucco decorated with white lilies. They are of two sizes but otherwise alike, formed in conventional fashion with two white sepals and three yellow

stamens. The pieces are much pulverised; only in one case has it been possible to unite a flower with the border, which consisted of a narrow white stripe and a broader black one, and in no case to bring two lilies into relation with one another. It appears certain that they were sprinkled singly over the crimson field, and laid diagonally. In the conjectural restoration drawn for me by Mr. Theodore Fyfe (Fig. 64) the alternate lilies are inverted on the analogy of the inlaid dagger-blade from Mycenae.

At Phylakopi a similar lily appears on the carved faces of an ivory finial (below, p. 193, Fig. 163), and painted in white on a *pithos* of red earthenware (Plate **XXIV.** 9); it has been found in red on white wall-plaster at Thera (Perrot et Chipiez, *La Grèce Primitive* Fig. 211); and Mr. Evans has

Fig. 64.—Design of Lilies. (Reconstructed. 3 : 10.)

recently published a clay seal-impression from Cnossos representing a hand grasping a flower of this form (*B.S.A.* viii. p. 78).

§ 4.—*The Original Position and Age of these Pictures.*

The circumstances under which these remains of paintings were found have been described by Mr. Hogarth (*B.S.A.* iv. p. 15 and p. 17 of the present volume) and Mr. Mackenzie (*B.S.A.* iv. p. 26). It is probable that the Flying-fish Frieze and the other picture or pictures found with it were enclosed in frames (see the evidence on p. 71), and that they were fixed in the walls at a height where they would not be rubbed by the shoulders of passers-by. Cretan analogies suggest the possibility that they decorated a megaron above the small compartment in which they lay, and that it and the adjoining rooms which have no visible ingress were basement rooms; in that case the square pier in the room of the paintings was the support of a column in the megaron. A stone column-base was discovered in a room on the west side of the same block, resting on loose earth and perhaps

fallen from an upper storey; but Mr. Atkinson assigns it to the later settlement.

Although it is impossible to say with any certainty what position the pictures occupied, we can within certain limits determine the period to which they belong. They lay on and above the floor-level of a house of the Second or Early Mycenaean City; the fact that two of them were painted on plaster which had previously had a crimson surface makes it improbable that they belong to the earliest days of that city. And they were below the floor-level of a house of the Third or Late Mycenaean City. In other words they belong to the period during which the dominant influence at Phylakopi came from Crete, not from the mainland.

§ 5.—*Other Remains of Wall-Paintings.*

Paintings of the quality of the Flying-fish cannot have been common at Phylakopi. The fragments found elsewhere for the most part showed plain surfaces of crimson or white; when there was an indication of pattern it was a spiral. There is one of which we would gladly know more (Fig. 65),

FIG. 65.—FRAGMENT OF PAINTED PLASTER: HEAD AND BACK OF A BIRD. (1 : 1.)

showing part of a bird painted in bright colours—the head red, the back ruddy brown, the wing white—on plaster that is remarkably thin and smooth. If I have identified it rightly, it was found in J 3: 21, 2·10 m. below the surface at the base of the walls of a Mycenaean house.

A considerable quantity of stucco was found, in 1897, below the foundations of the bastion (a Third-City addition) in B 5, and along the foot of the Strong Wall further east.[1] The stratum in which it lay contained a good deal of burned wood, and might have been rubbish thrown out during repairs following on a fire. Some of the pieces had the same colouring as those described in the preceding sections, blue on a creamy-white ground, or plain

[1] See *B.S.A.* iii. 14, and fuller particulars in Mr. Mackenzie's day-book.

crimson. Some had a pale yellow ground, and two showed curved stripes, probably part of a spiral.

Pieces of stucco with red squares and dots in crimson on a white ground were associated in D 4 with native pottery of the Early Mycenaean Period. Others with a crimson surface occurred in the south-eastern part of C 5 at a depth of 3·20 m. In May, 1897, Mr. Mackenzie noted that the association of painted stucco with native Melian ware, of the class with lustreless black paint laid on a pale yellow slip, had been observed again and again, but it was not until April, 1898 that any stucco was found which could be proved to belong to the Third or Later Mycenaean City. This find was made during the excavation of the small rooms forming the east wing of the Mycenaean palace; fragments of plaster with red and white surface, in one or two cases with a pale blue wash, were found at a depth of only ·25 m. in J 1 : 13, one of three rooms which have a floor of hard, pink cement.[1]

§ 6.—*The Rosette Spiral.*

Among the most characteristic designs of the native Melian pottery belonging to the later period of the Second City are the running spirals which occur in very great variety. Mr. Atkinson has reconstructed an unusually beautiful and rich design of this class (Fig. 66) from fragments of painted

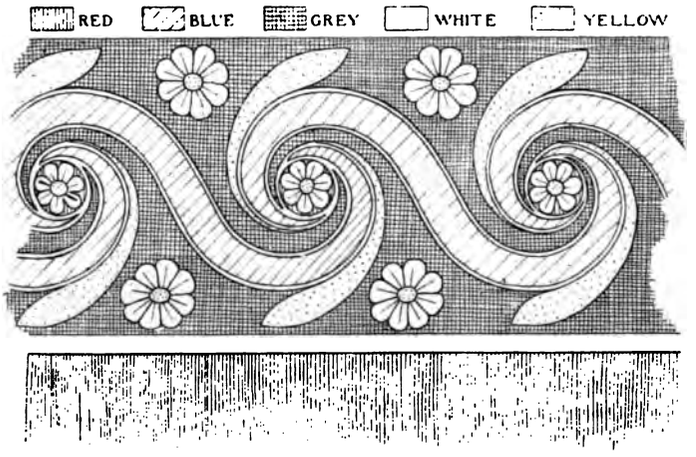


Fig. 66. Spiral Design. (Reconstructed. 1 : 5).

plaster found in G 3 : 14. The band forming the spiral is light blue, the background dark grey; in the eye of each volute, and in the triangular spandrels above and below the bands connecting the volutes, are placed eight-petalled rosettes, picked out with red on white. The leaf-like attach-

[1] Another of these rooms, J 2 : 1, contained two ordinary Mycenaean pseudamphorae.

ments, which spring from each volute and help to divide the spandrels, are pale yellow; if prolonged they would supply the framework of a quadruple spiral like that which forms the basis of the Orchomenos ceiling-pattern. The frieze is bordered by a white stripe, outside which there seems to have been a red panel.

Comparison with the spirals reconstructed by Mr. Fyfe from fragments of plaster found at Cnossos[1] makes it probable that this type of design was directly or indirectly derived from Crete.

§ 7.—*The Technique of the Melian Wall-paintings.*

I have tried to avoid the word *fresco* because I believe that these paintings were executed not in true *fresco* but in a combination of *fresco* and *tempera*. It was customary to mark off the dividing-lines of the stripes which bordered the picture or panel by applying a tightened string to the plaster while it was still wet; but some of the colours have not penetrated into the plaster, as they should have done if the real *fresco* process had been employed, but lie on the surface and scale off easily; nor do they resist water even as well as those on the painted plaster found at Cnossos and elsewhere in Crete. The paintings described in § 2 have been executed on a mere film of white limewash laid over an older painted surface.

Among the miscellaneous antiquities brought from Phylakopi to the Athens Museum is the base of an earthenware jar containing a caked mass of fine crimson earth of the same colour as the background of the Lily fragments. Dr. O. A. Rhousopoulos, the advising chemist of the Museum at Athens, has been so kind as to analyse it for me. It consists principally of Oxide of Iron (Fe_2O_3), with which there is present a smaller quantity of Silica ($Si\ O_2$), partly combined with the Oxide of Iron, partly free in the form of small bright crystals. Mr. Rhousopoulos thinks that this is the result of an artificial mixture, but it is also possible, I am informed, that the pigment was obtained from some natural earth containing silicate of iron, and that in the course of time through decomposition a part of the silica has separated itself and formed the crystals.

R. C. Bosanquet.

[1] *Journal of R.I.B.A.* X. (1902), p. 120.

CHAPTER IV.

THE POTTERY.

[PLATES IV.—XXXVI.]

§ 1.—*Introductory.*

FROM few Aegean sites of the pre-Hellenic period, if indeed from any, has there come a more interesting collection of pottery than from Phylakopi in Melos. The find ranges, without any apparent break, from the earliest types of the Cyclades to specimens of the latest Mycenaean style. It is true that the earlier period, up to the introduction of ware with painted patterns, is very imperfectly represented owing to the shattered condition of the material. The mature Mycenaean pottery of the final period again makes but a poor show among the following illustrations, not owing to any scarcity of it on the site but because it has been so fully published already in the monumental work of Furtwängler and Löschcke. But in two respects the Phylakopi find is of capital importance; first, it provides us with an ordered series of pottery extending, we may venture to say, over the whole Bronze Age of the Cyclades; and, secondly, it exemplifies with remarkable fulness the geometric and the early Mycenaean styles of vase-painting as practised in one thriving centre of the industry.

What was known about the Phylakopi pottery before the excavation of the British School was derived from two sources. In the first place various European Museums, notably the British Museum, the Museum of Sèvres, and the National Museum in Athens, contain some early vases which are known to have come from Melos, and which may be assigned without any doubt to the Phylakopi tombs. Taken together they form a pretty large group, though representative of only one period, and add considerably to the stock of our knowledge. In the next place the late Dr. Dümmler, in an account of a visit made by him to Phylakopi in 1885, has given a short description of the vase-fragments which he observed lying about the tombs and the fortress. From these he recognized (with complete justice, as the contents of this book will show) that the remains at Phylakopi furnish the desired link between the culture of the cist-tomb period and that of Mycenae and Tiryns.

In the first two seasons of the excavation, when the Great Wall at the west end of the site was being cleared, the amount of pottery found was by

no means small, but during the last two years, considering the scale of the work, the daily harvest was something enormous. Sometimes as many as fifty basketfuls were brought in of an evening, to be dealt with on the following day. On a rough calculation an average day's yield consisted of between ten and twenty thousand fragments. It was found advisable to make it a rule that no potsherds, however insignificant in appearance, should be thrown away until they had been cleaned and examined. Each basket was furnished with a note of the depth at which its contents had been found, and a brief note, naturally rather rough, was made of their character before they were thrown into the rubbish heap. At the close of each season a large quantity of pottery was brought to the museum in Athens for further study, and a convenient work-room was kindly allotted to us by the authorities.

In the season of 1898 two trenches were sunk for the sole object of observing accurately the stratification of the pottery. They were cleared out by half a metre at a time, and the character of the fragments from each half metre was noted down with more than usual care. A summary of the results of this experiment will be found on p. 162. Perhaps the most valuable outcome of it was that it led to the discovery of the oldest remains on the site.

A place that has once been densely inhabited is not likely to yield much unbroken pottery and, as will be seen, our material consists largely of fragments. Entire vases, however, were not altogether lacking, and there are comparatively few pieces among our illustrations that cannot be attributed to some type of which we have a complete specimen. Besides the chance (or rather the all but certainty) of breakage the pottery at Phylakopi has been exposed to the further danger of corrosion by the salt with which the site is permeated,[1] and much of the painted ware has suffered in this way.

The tedious work of sorting the fragments brought to Athens, reconstructing shattered vases, photographing and drawing was carried on regularly throughout the two last years of the excavation, and has been continued intermittently up to the present time. There is no limit to the care with which such a task might be conducted or to the time that might be bestowed upon it, and with further labour some further spoil might doubtless have been rescued out of the mass of rejected sherds. But I trust that not much has been cast away which it would be a gain to science to have preserved, and I think it probable that three days' digging on a new part of the site would yield more valuable material than would three months' work among the refuse of the last excavation.

Two short reports by the present writer on the pottery found in 1898 and 1899 have been published in the *British School Annual*: I need scarcely say that they are to be regarded as entirely superseded by the following chapter.[2] The papers by Mr. Cecil Smith, Mr. Mackenzie, and Mr. Bosanquet

[1] A strong north wind sends the spray flying over the cliff, whence the local name of the site *'στὸν καπνόν* ("*διότι καπνίζει*").

[2] There is only one statement in them that calls for more than a tacit correction; the article described as a vase-stand (*B.S.A.*, IV. p. 40) is more probably part of a large vessel.

in the same periodical contain some interesting information on the same subject. The details given by Mr. Mackenzie with regard to the strata in which the various classes of pottery were found are of particular value, as on this point he is undoubtedly the best authority; there were very few hours during which he was not engaged in active superintendence of the digging, and few objects of any importance which he did not see extracted with his own eyes. I am greatly indebted to Mr. Mackenzie for his constant co-operation during the months we spent together in Melos and Athens. To Mr. Bosanquet also I am under a deep obligation; the progress that has been made in the last few years in restoring vases and getting the material ready for publication and exhibition is almost entirely due to his energy and kindness.

The order pursued in the present chapter requires a word of explanation. I have separated the pottery into more or less homogeneous classes and described the leading varieties in chronological sequence (sects. 2–16). Certain isolated vases and groups of secondary importance I have left over to the end in order to make the main outlines of the history of the art as clear as possible. The arrangement of the plates coincides for the most part with the order of the text, though there are some slight deviations owing to exigencies of space. The descriptions in the text are naturally of a general character, but in the explanation of the plates (pp. 165 f.) I have added a number of details about the individual objects, intended primarily as an aid to an understanding of the illustrations. For the benefit of anyone at home who wishes to gain a closer knowledge of the types and styles discussed in this book it should be mentioned that a liberal selection of Phylakopi pottery has lately been presented by the Greek Government to the Ashmolean and Fitzwilliam Museums in Oxford and Cambridge.

A few of the illustrations among the plates are from photographs by Mr. Hogarth, but the great majority of them are reproduced from the photographs of Herr Rohrer of the German Institute. The illustrations in the text are from drawings by Mr. Bagge, a Danish artist living in Greece. The Fishermen vase on Pl. **XXII.** has been reproduced from a photograph of a coloured copy which Miss Hogarth kindly made for us in 1899 (when the intention was to publish it in colour), and the vases on p. **144** were also drawn by Miss Hogarth. Figs. 92 and 110 are from water-colours by Mr. Fyfe, a former architect of the British School.

§ 2.—*The Earliest Pottery.*

The earliest pottery was found immediately east of the Palace (see plan). During the first two seasons the higher part of the site had yielded nothing of a very primitive character. The second of the trial trenches mentioned above was sunk here in 1898, and contrary to expectation we struck a rich layer of pottery of the same kind as that which is found in the primitive cist-tombs of the Greek islands. The mass of it lay almost immediately

above bed rock. The lowest half-metre of the trial trench contained several hundred fragments of it, almost entirely unmixed with any other kind of ware; in the succeeding half-metres it became less and less predominant. The excavations of the following year did not add much to our knowledge. In one place where the rock was reached in the immediate vicinity of the trial trench, we again found a large quantity of the same pottery. But we did not ascertain how far it extended, as the main part of our work lay elsewhere.

This find may be taken to prove that the site was inhabited before the construction of the earliest buildings represented on Mr. Atkinson's plan. The remains were certainly the remains of habitation and not of burial. There was no trace of graves or of human bones.

The pottery was hand-made, of very coarse, imperfectly baked clay, usually with a burnished surface, red or brown. Unfortunately it was in such a shattered condition that no illustrations of it can be given, and, to fill the blank, I am obliged to fall back on some similar examples from the neighbouring cemetery of Pelos (*v. infra*). The types that could be recognized are as follows:—

1. Jars with wide funnel-like necks narrowing towards the top, spreading

Fig. 67.

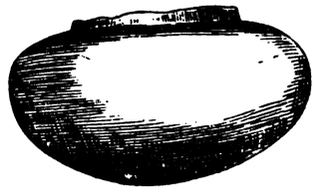


Fig. 68.

shoulders with two or four suspension-handles (either attached separately or pinched out of the sides), and small bases, flattened or slightly concave (Fig. 67, cf. *J.H.S.* 1884, p. 54, *B.S.A.*, Vol. III. pp. 44, 45, 'Εφ. 'Αρχ., 1898, Pl. IX., 1 ff). This characteristic type was very common. There were instances of horizontal handles as well as of the usual vertical ones, and in some cases the rim was turned slightly outwards (cf. p. 85).

It is quite likely that some of the fragments belonged to pyxides of the same shape as 1, but without the high neck (Fig. 68, cf. 'Εφ. 'Αρχ., 1898, Pl. IX., 34), although, as it happened, no *certain* example of this type was found in the most primitive class of pottery.

2. Vases of the same shape as 1, with the addition of a hollow foot (Fig. 69, cf. 'Εφ. 'Αρχ., 1898, Pl. IX. 6). These were certainly much less common.

3. Cylindrical pyxides with lids (Fig. 70, cf. 'Εφ. 'Αρχ., 1898, Pl. IX. 31). These also were comparatively rare.

4. Shallow plates with rounded rims curved slightly inwards, flattened bases, and long horizontal suspension-handles below the rim.

There were also a great many fragments of open vessels, the shapes of which could not be restored with certainty. Some had long horizontal suspension-handles below the rim; and in one or two cases the handles had been left unpierced. Many were unpolished and some of them bore marks of burning on the outside; these probably belonged to cooking pots. Several of this class had small holes pierced through their sides a little below the rim. There were many specimens of what looked like the leg of a tripod vase; in the best-preserved instance, however, it was clearly not a leg but a handle (somewhat like the lamp- and ladle-handles of the later period, *e.g.* Pl. **XXV.** 7), and it may be, therefore, that they all were handles.

This pottery, as has been already said, is of the same type as that which is characteristic of the earlier class of cist-tombs. A cemetery only a few miles south of Phylakopi, at a spot called Pelos, has yielded a good deal of very similar ware (*B.S.A. loc. cit.*). But it is to the researches of Mr. Tsountas that we owe the fullest and most interesting information about the pottery of

FIG. 69.

FIG. 70.

PREHISTORIC VASES FROM PELOS, ILLUSTRATING THE EARLIEST KIND OF POTTERY FOUND AT PHYLAKOPI.

(Reproduced from *B.S.A.* Vol. III.)

the cist-tombs. Certain of the cemeteries which he explored, especially those of Paros and the neighbouring islets, were characterized by the kind of pottery under discussion; in others, particularly those of Amorgos, the types were different and more advanced (I leave out of account for the present the later tombs of Syros and Siphnos which contained painted ware). Further, the pottery of the prehistoric settlement at Pyrgos in Paros was found to have much more in common with the pottery of Amorgos than with that of the Paros tombs. The types numbered above as 1, 2 and 3 are those which were most characteristic of the tombs and most conspicuously absent in the settlement. The conclusion to which Mr. Tsountas comes is that these types were consecrated to sepulchral uses and that they do not, therefore, mark the tombs in which they are found as earlier than the settlement of Pyrgos and the tombs of Amorgos in which they are not found ('Εφ. 'Αρχ. 1898, pp. 180, 181).

It is quite possible, of course, that in some places the above types continued to be manufactured for the use of the dead after they had ceased to be used in daily life. But on the whole I think we need not hesitate to make some chronological distinction between the various cemeteries and settlements of the primitive period. Here at Phylakopi we have traces of a settlement full of the same sort of pottery as the Paros tombs; if the settlement corresponding to the neighbouring cemetery of Pelos could be discovered,[1] it is to be presumed that it would not be of a more advanced type than this. It will be seen in the next section that the most primitive kind of ware at Phylakopi is immediately succeeded by pottery like that of Pyrgos and Amorgos. For instance, the vase Fig. 71, which was found on a higher part of the site, and which is of less coarse fabric than the fragments from the trial trench, is of the same form as a vase from Dokathismata in Amorgos ('Εφ. 'Αρχ. 1898, Pl. IX. 21), and the type is evidently a development of type 1. The points in which the Phylakopi example chiefly differs from the primitive type are the flat rim and the absence of any line of demarcation between neck and shoulder.

FIG. 71[2] (1 : 4).

§ 3.—*Some other Early Wares.*

The pottery to be described in the following paragraphs was found in great abundance in the trial trench in J 2, but not exclusively there; it was fairly common in other places also. It was a good deal mixed up with the primitive ware of § 2. The latter, however, had the bottom layer almost entirely to itself, disappeared at a lower level, and was not found elsewhere on the site. It is probable, to judge by the evidence of accumulation, that some at least of the types of § 3 were in use at the same time as those of § 2; but it is certain that they originated later and that they lasted later.

The pottery in question is not at all a homogeneous collection. It was found in a hopelessly shattered condition, and I have not attempted to do more than pick out a certain number of characteristic details, such as form points of comparison with other finds.

Among the fragments of large coarse ware there were several that were decorated with impressed patterns of zigzags, rows of triangles, and other simple geometric schemes. Pl. **XXXIV.** 2 is from the rim of a pithos surrounded by

[1] It might be thought that Pelos was the cemetery of the original inhabitants of Phylakopi; it is more likely, however, that there existed another village on the slopes above the marshy plain of Palaeochora (perhaps at that date covered by water), and that the Phylakopi people, as in the succeeding period, buried their dead in the immediate vicinity of the settlement.

[2] Light-coloured clay; dark-brown coat, hand-polished; two vertical suspension-handles; rim flat on top; base flat.

a rope pattern consisting of raised horizontal bands with slanting incisions. Another fragment of the same ware had a long horizontal handle (like a suspension-handle without a hole through it), and the same type was found on smaller ware. Far more common, however, were round horizontal handles with slanting incisions, resembling a short piece of rope or basket-work curved into the form of a handle; most of them bore traces of a coat of black glaze. This type was characteristic of the settlement of Pyrgos in Paros and of the cemetery of Καψάλων in Amorgos ('Εφ. 'Αρχ. 1898, Pl. IX. 37, and text), and Mr. Mackenzie and I in 1898 picked up one or two specimens on the prehistoric site of Samari in West Melos (cf. *B.S.A.* Vol. III. p. 86).

The rope pattern of **XXXIV. 2** occurs very frequently on less coarse ware with a thin coat of red or brown glaze (*e.g.* Pl. **V. 13**; cf. 'Αρχ. 'Εφ. 1898, Pl. IX. 29, and 1899, p. 121). It was also found on quite thin black-glazed pottery of the same early date.

The smaller ware—to class it as a whole—was made of finely levigated clay which had sometimes a polished surface, but as a rule was covered, either wholly or in part, with a thin coat of glaze. Fine brush-marks were apparent in many cases. Small flat bowls or saucers with rims more or less sharply recurved were the most common of the recognizable types. There were also deeper bowls or cups; one black-glazed specimen had a horizontal loop-handle attached to the rim. There was at least one example of a pyxis with spreading shoulder and short neck to hold a lid (cf. *B.S.A.* Vol. III. p. 53, Fig. 1 and 'Εφ. 'Αρχ. 1899, Pl. VIII. 7, 8). Two vases published by Mr. Bosanquet (*B.S.A. loc. cit.* Figs. 1 and 2) which were in all probability discovered in the tombs of Phylakopi belong to the same class: the larger of them is very similar to one of the vases from Chalandriane in Syros ('Εφ. 'Αρχ. 1899, Pl. IX. 22).

Pottery with painted designs began to crop up as low down as in the twelfth half-metre of the trial trench. The paint, which appeared to have been applied without the intervention of a white ground-colour, was lustrous and the majority of the fragments were of the same fabric as the majority of the glaze-coated fragments mentioned above; many of them, too, were glazed inside. The patterns were of a simple geometric character. There were several fragments of cups with slightly concave sides ornamented with cross-hatchings (cf. 'Εφ. 'Αρχ. 1899, Pl. VIII. 3, 4). Another fragment apparently belonged to a round-shouldered pyxis like those from Chalandriane (*op. cit.* Pl. VIII. 7, 8). The upper part of a small beaked jug was decorated with horizontal bands.

As the above comparisons show, all this pottery (which it does not seem worth while to subdivide more closely) is of the same type as that from the later cist-cemeteries and the contemporary settlements. I doubt whether much of it, if any at all, is of local make. The painted fragments have more affinity to the vases from Chalandriane in Syros than to any of the distinctive Melian fabrics. Thus, though native-made cups of the same type as those just mentioned are, as will be seen later, extremely common, they differ from the latter in several points; the clay is of a grittier quality, the design is

applied upon a white ground, and the inside is not glazed. The thin, glaze-coated fragments may be regarded as forerunners of the Kamáres class (see sect. 17) and it is not unlikely that a good many of them are of Cretan origin.

§ 4.—*An Early Group of Dark-faced Vases.*

We come now to less fragmentary material of the same general class as the contents of the preceding sections. The pottery which is here grouped together is technically a development of the primitive ware of section 2. It has a lustrous surface, red, brown, or black, but with some exceptions the lustre is no longer produced by the old method of burnishing, but by some ingredient in the coat with which the vases are covered; it has a rather resinous appearance at times and is seldom at all brilliant. In addition to this lustrous coat most of the vases and fragments mentioned below are ornamented with incised patterns. In a great many instances there are traces, more or less distinct, of a white filling in the incised lines, and we may assume that in many other cases it once existed but has now disappeared. One must think of all the following designs as picked out in white and as much more distinct therefore than they now appear to be. I have never noticed any traces of this technique on the earlier class of cist-tomb vases, and in many of them indeed the incised lines (or rather scorings) are so shallow that they cannot have been intended for the bed of a white design; in other cases, however, it is possible that the chalky filling was originally there but has not survived. It would be interesting to determine at what period this technique, which is so prominent a feature in the earliest pottery of Egypt, Anatolia, and Europe, found its way to the Cyclades. Mr. Tsountas has observed it on the Chalandriane vases (Ἐφ. Ἀρχ. 1899, p. 88), but does not mention it in connection with the earlier pottery from Paros and other places.

There is no strict division between the contents of section 3 and those of the present section, although for the sake of clearness I have separated them. The pottery described below is contemporary with the painted geometric ware of Phylakopi, or rather with the earlier part of it. A great deal of it is made of the same clay as the painted ware and is therefore Melian.

1. The primitive type of cylindrical pyxis (*e.g.* Fig. 70, Ἐφ. Ἀρχ. 1898, pl. IX. 18) has perpendicular sides, two vertical suspension-handles and a very slight neck to hold a slightly convex lid. The later type, of which Pl. **IV.** 1 is a good illustration, narrows towards the top and is without the suspension-tubes, having merely a hole on each side a little below the top. Pl. **IV.** 2 is a double pyxis of the same form.[1] Pl. **IV.** 3 exhibits the type in a still later stage of development. A second and much rarer variety of pyxis had a lid with a projecting roof and a cylindrical neck which came down over the sides of the vessel and rested on a projecting base, *e.g.*, **IV.** 4. This is a common

[1] Cf. also a vase from Seriphos in Copenhagen, published in Blinkenberg, *Antiquités Pré-Mycéniennes*; the same type occurs at Hissarlik.

type at Hissarlik, and it has also been found at Chalandriane. One of the Phylakopi examples seems to have stood on three short legs, another point of connection with the pottery of the Troad.

One pyxis-lid of this period (picked up among the tombs) had a slightly arched roof like those from Pelos; the others were either flat, as for instance the lid of the double pyxis, or conical, *e.g.* Fig. 72. The latter shape is presumably a development of the slightly convex lid of the earlier period. It occurs also in stone on the well-known pyxis from Amorgos (*Ath. Mitth.* 1886, *Beilage* I, A4), which is sometimes, but in my opinion quite erroneously, described as an imitation of a hut (Tsountas and Manatt, *Myc. Age*, p. 260 Fig. 134; Hall, *Oldest Civilization*, p. 25).

FIG. 72[1] (3 : 8).

FIG. 73[2] (3 : 8).

The lid figured in Pl. **IV.** 5 has had a round-arched handle (cf. Ἐφ. Ἀρχ. 1899, Pl. ix. 22 and also the painted lid, **VIII.** 2); as the ornamentation shows, it belongs to this period, although I cannot say for what type of vase exactly it has been intended; it is of the same fabric as **IV.** 3 and is provided with string-holes corresponding to those of the latter. The flat lids with handle-knob in the centre, of which Fig. 73 is an example, are a later variety.[3]

The almost universal decoration of the earlier pyxides consisted of horizontal bands of herring-bone (*v.* Fig. 70). The later ones show a fair variety of geometric designs (Pl. **V.** 1–6). As a rule the ornamentation is divided into two or more horizontal friezes; sometimes the same pattern is repeated on the different friezes (*e.g.* **IV.** 1), sometimes the patterns differ (*e.g.* **V.** 6), and in one case, **V.** 2, we find two different patterns in the same frieze. The textile origin of several of the schemes, such as the herring-bone and the hatched triangles, is obvious, although probably the original meaning came in time to be lost sight of. The upper frieze in **V.** 6 is a direct copy of basket work. **V.** 3 again is a cording motive. **IV.** 1 is an instance of how an angular pattern may become curvilinear by mere hasty execution (cf. **VIII.** 9); similar transformations will be met with later on. The small stamped circles with which **IV.** 4 is covered and the dots on **V.** 5 are common features of the Chalandriane pottery.

2. The vases of which Pl. **IV.** 6 and **IV.** 8 are specimens were known among our workmen at Phylakopi as πάπιαις or duck-vases. Whether the

[1] Reddish clay (Melian); slightly lustrous red coat; hole at each side.

[2] Later fabric; lustrous brown coat.

[3] Many such are found in Mycenaean strata, but the type is not confined to any one period. Some are flat underneath like Fig. 73, while others have a slightly projecting ring intended to fit into the neck of the vessel. Some lids of this type with bluntly impressed patterns belong to a class of hand-polished pottery described on p. 154. The type is a common one in stone also.

idea that they represent birds is right or wrong, the name is at any rate a convenient one and deserves to be retained.[1] These duck-vases were very common although not many of them were preserved whole. They all have flattened bases, a spout with broad flat rim and pointed nose, and a small handle at the root of the neck (attached externally). The normal type is illustrated by **IV.** 6. The large globular specimens of which **IV.** 8 is a representative have a suspension-handle at either side. There was a small and extremely flat one with little unperforated ledge-handles. Some of the spouts were much longer than others and some stood more erect than others, but the material was too fragmentary for any nicer distinctions to be founded upon it.

Hitherto not many examples of this remarkable type have been known. There are at least two from Amorgos, one of which is in the Ashmolean and the other in Athens (*Ath. Mitth.* 1886, *Beil.*, 2, 1), one from Tiryns (Schliemann, *Tiryns* p. 67, No. 5), and another from Hissarlik.[2] Two other specimens in the British Museum and the Sèvres Museum respectively come without much doubt from the Phylakopi tombs. I am not aware of any others.

Though it is possible that the shape of the duck-vases was secondarily intended to recall that of a bird, it cannot be thought that the type originated as a realistic imitation. Dümmler remarks that the ornamentation on the top of the Amorgos specimen points to its being derived from a vase with a removable lid (*Ath. Mitth.* 1886, p. 37), and it seems to me that he is right. The top may well be a copy of a conical lid like Fig. 72. A round-shouldered vase with conical lid and side-spout (something in the style of Ἐφ. Ἀρχ. 1899, Pl. ix. 14)[3] is what one can imagine to have been the prototype of the duck-vase. The flat-topped spout is a modification of one like **IX.** 1, more ornamental than useful for pouring from.

Dümmler further suggests that the well-known Mycenaean type called pseudamphora or *bügelkanne* is derived from the duck-vase (*l.c.* p. 37). The intermediate link by which he connects them is rather weak (*l.c. Beil.* 2, 2); but nevertheless there is something in the suggestion. A large painted vase from Phylakopi, Fig. 74, forms a strikingly clear link between the two types; it retains the essential elements of the duck-vase, the shoulder-spout, the conical top and the handle; but the spout has lost its flat rim and the handle is now erected over the central cone[4]; the general shape of the vessel, too, is exactly that of certain large pseudamphorae. It is possible that this is an inten-

[1] Vases in the form of birds occur in prehistoric deposits both in Egypt and in Europe (*e.g.* Petrie and Quibell, *Naqada and Ballas*, Pls. XII. and XXVII., Hoernes, *Urgeschichte*, p. 496), and a specimen from Corinth shows that they were not unknown in the Aegean area (*Amer. Journ. of Arch.* 1897, p. 323). Cf. also a 'Kamáres' bird-vase from Cnossos (*J.H.S.* 1901, p. 79). In view of the European examples and of the undoubted animal-vases found at Phylakopi (see p. 91), I think it quite possible that the makers of the πάπιαις did really intend them to be suggestive of birds.

[2] Schliemann, *Troja*, (Eng. ed.) p. 216, no. 130. Is this of local fabric or imported? In either case it is a token of Aegean influence.

[3] Cf. also Pl. IV. 13.

[4] The handle of the Tiryns specimen is of an intermediate type.

tional compromise between two types of independent origin. But as the Phylakopi vase belongs to the early geometric school it is more reasonable to conclude that the duck-vase (or some closely cognate type) was one of the elements out of which the idea of the pseudamphora was evolved.[2] I may add that fragments were found of one or two other duck-vases with painted designs, but these were of the usual form.

FIG. 74[1] (about 1 : 7).

The designs are confined to the upper part of the vase and are arranged round the conical top. The conical top (or sham lid) is frequently surrounded by impressed rings (*e.g.* Pl. **IV.** 6) like the lid of the stone pyxis from Amorgos already referred to, or by some other pattern suited to a circular space, such as **V.** 12; and this central pattern is encircled by a frieze of some kind, such as the zigzag band of **IV.** 6, or the lozenges of **V.** 9. Another favourite system of decoration (akin to the former), is illustrated by **IV.** 8 and **V.** 10; narrow strips, more or less ornate, radiate from the apex of the vase, and sometimes, as in **V.** 10, patterns are placed in the intermediate spaces. Pl. **V.** 8 and 11 are perhaps more elaborate developments of the same system. The shoulder patterns on **IV.** 6 might be interpreted as the wings of the *πάπια*. Some of the duck-vases found at Phylakopi had no incised design at all, but these were in a minority.

As regards details, one frequent feature of these designs is the border of small slanting incisions—one might call it a stitch pattern—of which Pl. **V.** 10 presents the most conspicuous example; it occurs also along the inside of the zigzag band on **IV.** 6, and on the shoulder pattern of the same vase. Another favourite method of decoration is to emphasize a pattern by covering the surface with small punctures, or, more correctly, by stippling it with white dots; the lozenges on **IV.** 11 and the small circles on **IV.** 8 are treated in this way.

[1] Light-coloured clay, greenish slip, black glaze-paint changing to red in places; small projection behind; pattern round inside of mouth.

[2] The design on this vase has nothing in common with the usual decoration of the pseudamphorae, but it is worth noting that the cross-hatched band round the lower portion of the body occurs on the late pseudamphorae figured on the tomb of Ramses III. The vase may perhaps not be of Melian fabric, but there is no reason for divorcing it from, and dating it later than the painted geometric ware of sect. 6.

The same vase bears a remarkable resemblance to certain Apulian *askoi* which Messrs. Orsi and Patroni have ingeniously derived from the pseudamphora (*Mon. ant.* vi. p. 391, Pl. XIII). In each case we have the same conical top surmounted by a loop handle and the same side spout. It is evident therefore that the pseudamphora is not the parent of the *askos* but merely a related form. For early Mycenaean *askoi* see p. 135.

Lozenges are a common element of design, and they have often some small ornament at each of their four corners (*e.g.* **V.** 10 and 11). One unpublished fragment has a frieze of stippled circles connected by tangents of dotted lines, and below the frieze there is a zigzag band (like **IV.** 6) with a border of dots on each side. But the most interesting design is on **IV.** 8, *a*, *b*, *c*. On fragment *c* is represented a boat with curving stern in which stands a man guiding (apparently with his elbow!) the long steering-oar. The short slanting lines above and below the hull no doubt stand for oars. The body of the man is shaped like an hour-glass, and of this geometric scheme we shall meet with several other instances later on. The boat is of somewhat the same type as those on the early incised ware from Chalandriane ('Εφ. 'Αρχ. 1899, p. 90),[1] on none of which, however, do the steersman and steering-oar occur. Fragment *b* shows the general scheme of the design. The object between the divergent bands (more distinct on *a*) might be interpreted, in acccordance with the marine character of the representation, as a highly conventionalized fish, but it is safer to set it down as a mere lozenge pattern like those just mentioned. Lastly, the design on **IV.** 12 *b* deserves to be noted; it recalls certain (originally animal) representations on the Hissarlik whorls (*e.g.* Schliemann, *Ilios*, Nos. 1909, 1911, 1913, etc. in the plates).

Fig. 75.—Front View of Animal-Vase.
(For Side View see Pl. IV. 7.)

3. The vase **IV.** 7 which represents an ox or some other quadruped, has a flat-rimmed spout like the duck-vases, and is decorated with similar patterns. Its chest and rump are strewn with small lozenges (see Fig. 75). There has been a small suspension-handle below the neck and the top of the tail is converted into a second. We found part of another vase of the same type, and both of them are of local fabric.

4. So also is the ring-vase (Pl. **IV.** 9), which bears a suggestive resemblance to a serpent. It has a spout of the same shape as the preceding types and a small suspension-handle below the neck. The idea of making vases in the shape of a hollow ring with an upright spout is a very old one, for the form is already found in the archaic pottery of Egypt (Petrie and Quibell, *Naqada and Ballas*, Pl. XXXVI. No. 84).

5. Fragments of beaked jugs with a dark lustrous coat, like the preceding vases, were occasionally found. In the matter of shape they belong to type (*a*), p. 98. A vase of this class in Sèvres, 1419[6], has a pattern in relief round the shoulder consisting of four sets of three vertical lines, like certain very common patterns on the painted types, and there is a similar vase in the British Museum. The only one that we found with an incised

[1] It is unfortunate that the other end of the boat has not been preserved. What Tsountas calls the stern of the Chalandriane vessels, I take to be the prow with a *ram*.

design is reproduced on Pl. **IV.** 11. In one respect it differs from the ordinary beaked jug; the handle is not of the usual type, p. 94, but is flat like that of a duck-vase.

6. **IV.** 12 is a specimen of a type which is more common in painted ware (p. 101). The mouth is pinched in on either side. The handle is attached in the normal way (see p. 94). The same type occurs among the unpainted ware from Chalandriane ('Εφ. 'Αρχ. 1899, Pl. IX. 6).

7. We found one or two cups of the same shape as sect. 6, No. 11, but with a dark lustrous surface instead of the usual painted designs. **IV.** 10 is shaped a little differently, but it also has a parallel among the painted cups (**VIII.** 11).

This list is, of course, not intended to include all the vases that have a lustrous coat of red, brown or black, but only to exhibit one homogeneous group of the early geometric period. There are earlier and later varieties both of burnished and of glazed pottery and they cannot all be lumped together in one class. Many other lustrous-faced vases will be pointed out in the course of the present chapter, either as small separate groups or in connection with the larger groups to which they are most closely akin. The practice of decorating pottery with a lustrous monochrome coat was in constant use throughout the whole period covered by the Phylakopi finds.

General Remarks.—It is unnecessary to dwell on the resemblances between the above vases and the pottery of the neighbouring islands; close resemblances together with local distinctions are what we expect to find, and are exactly what we do find. The parallels from Hissarlik are of more significance. As regards forms we find at Hissarlik the pyxis with narrowing sides (*Ilios*, No. 294) as well as the other kind with the enclosing lid (*Il.*, No. 231); the beaked jug is common property over the Aegean area, and the type of jug represented by Pl. **IV.** 12 is not without its Anatolian parallel; one of the few duck-vases previously known came from Hissarlik (*Troja*, p. 216); and lastly we meet with various specimens of animal-vases and ring-vases like 3 and 4 in idea, although a good deal different in execution. The ornamentation of our vases is identical with that of the Trojan pottery in technique and very similar in style. Passing over the simpler elements of geometric design we may compare **V.** 10 with *Ilios*, No. 72 and **V.** 5 with *Ilios*, No. 1951; we may compare also the man on **V.** 8*c* with the animals on the Hissarlik whorls, especially for the way in which the eyes and testicles are respectively rendered; finally, the stippled patterns on the Phylakopi pottery are obviously related to those on the earlier Trojan ware. It is just at this period that the Cycladic pottery has most in common with that of Hissarlik.[1] After the introduction of painted patterns it draws farther and farther away from its earlier Asiatic and European connections.

[1] For further parallels from the finds in Syros and other islands, see 'Εφ. 'Αρχ. 1899, p. 108.

§ 5.—*Painted ware of the Geometric period: Introductory Matter.*

During the geometric or pre-Mycenaean period the painted designs were applied in three different methods. These are as follows:—

1. The design is painted in *lustrous* black upon a white slip surface. The black changes to red with over-firing, and a uniform colour, whether black or red, is seldom attained. As a rule the lustre is very faint. The slip is fairly firm and frequently takes on a yellowish tinge.

2. The design is painted in powdery *matt* black, of a uniform dead blackness, upon a white slip, colder and more chalky than that of 1.

3. The surface is covered with a lustrous coat of black or red (sometimes too it shows signs of having been burnished) and the design is painted in white.[1]

These three methods were contemporary. The third is largely a development of the technique with which we have been dealing in section 3; in place of first incising the pattern and then filling in the incised lines with white matter, the potter takes his brush and applies the white lines straight away. As regards the other two techniques there is some reason for thinking that in the Cyclades the first is of earlier origin than the second. In section 2 I mentioned some very early pottery of which some pieces were glazed all over while others had patterns on them in glaze-paint. The pottery from Chalandriane is also of this character. Further, it is a striking fact that no pre-Mycenaean vases with matt black designs have yet been found in Crete. On the other hand the designs on the earliest painted pottery from the mainland and Aegina are in matt black. It is a reasonable conjecture therefore that this technique came to Melos from the mainland while the glaze technique was indigenous in this region.[2] According to Furtwängler and Löschcke the vases with matt designs are earlier than those with lustrous designs, and this division, with some allowances, holds good for the later period. But, as we see, it is no criterion for the earlier period, and, as regards the Melian pottery at any rate, the reverse of the above rule would be nearer the truth.

The two methods were in use at the same time but they were not used indiscriminately. Certain types affect the one, other types the other technique. Further, if we contrast the group of matt patterns with the group of lustrous ones, we find very distinct differences, as will appear more clearly when we come to details.

Before proceeding to describe the various types I must mention certain general characteristics which are common to the following vases. As an

[1] It is noticeable that some of the earliest vases found in Egypt are ornamented in this method, with white designs on a lustrous red ground: the two classes indeed are very similar in appearance.

[2] It is a coincidence worth noting that vases with lustreless black patterns become very prominent in Egypt about the beginning of the New Empire. But though these vases have some points of connection with early Aegean pottery (see p. 100) it is unnecessary to suppose that the technique in the two cases was derived from one common source.

almost invariable rule they have a flattened base; in no single instance is the base round, like that of a gourd; and a ring-base on the other hand (*e.g.* Pl. **XIV**. 1) is an indication of the vase to which it belongs being comparatively late. The handle, again, is attached in a characteristic manner; the lower end (and the upper also when it is not fastened to the rim, as it usually is) is stuck through a hole in the side of the vase and protrudes on the inside. In the case of open vessels, such as cups, the join is of course smoothed over on the inside as well as on the outside; but in the case of a narrow-necked jug like Pl. **IX**. 1 there was no need to conceal it, or rather there was no getting at it. Besides this type the old suspension-handle is still of course in common use. Another distinctive feature of the vases of this period is the impressed 'letter' or mark which they frequently bear. These marks are usually found on the handle or base of a vessel and, with a few rather later exceptions, have been impressed in the damp clay before baking. A fuller account of them is reserved for another chapter in which Mr. Evans discusses their relation to other systems of symbols and the linear characters of the early Cretan script. For the present it is sufficient to note that as a whole they are contemporary with the geometric style.

The pottery of this period is shaped with great regularity, as the illustrations show, and judging from the outward appearance alone one would put it down as wheel-made. Thus Mr. Blinkenberg speaks of the Phylakopi vases in Sèvres as wheel-made. Yet I have never observed any *certain* traces of the wheel, any signs of rapid turning such as are so common on the later pottery from the same site (*e.g.* **XIX**. 10). Many, indeed, of the geometric vases and fragments bear traces of having been shaped by a turning motion, but not by a more rapid motion than could have been imparted by the unaided hand. If a wheel was used it cannot have been a rapidly revolving one, and it seems to me more likely that the vases of this period are all of them hand-made.

Finally, an important and somewhat puzzling characteristic remains to be mentioned. A great many vases of the geometric fabrics bear on their bases the impression of a mat of interwoven rushes upon which they have evidently been placed while still damp. These impressions are found on vases of all sizes from large pithoi like **XXXIV**. 1 down to such tiny pots as **XXXV**. 10, though it is on the larger kinds that they occur most frequently. They are never found, however, on the finer vases with painted patterns. These have always smooth flat bases, whether it was that they were not set on mats during the process of their manufacture or (as is just possible) that the impressions were obliterated before they were put into the oven. When the design of the mat was of circular form such as Pl. **VI**. 1, the vase was usually but by no means invariably placed with the centre of its base on the centre of the mat. In several instances there are traces of the pot having shifted its position on the mat or of its having been set upon two different mats in succession. In more than one instance again a vase with a hollow foot like Fig. 76 bears the impression of a mat on the underside of its base, showing that it had been in contact with the mat before the foot was added.

Several of the vases with mat-impressions that have been found in the Cyclades belong to the period before the introduction of painted ware ('Εφ. 'Αρχ. 1898, p. 182) and it is not unlikely that some of the Phylakopi specimens go back to the same early date. But the vast majority of them are of the same age as the painted geometric pottery. The pots on which they occur are, with one or two exceptions, clearly hand-made; the exceptions to which I refer show traces of fairly rapid turning and at least look as if they had been made on the wheel.

The illustrations on Pl. **VI.** which have been prepared from plaster casts and are therefore facsimiles of the actual mats, show the various ways in which these were woven. The ordinary form consists of a warp and woof at right angles to each other, the rushes (which constitute the threads of the warp and woof) being sometimes woven singly, more frequently in pairs and not seldom in threes (*v.* Nos. 2 and 5). Another common type consists of a radiating warp and a circular woof. In several instances the centre of the warp is clearly seen to have been formed by two sets of rushes twisted round each other. **VI.** 3 again illustrates remarkably well the arrangement of the threads of the warp. Starting from the centre the radii of the warp are each composed of a small bundle of threads; as the circle widens, these radii divide into two branches each of which comprises half the original number of threads; and so on until the circumference is reached. Nos. 5 and 9 are apparently portions of circular mats at some distance from the centre, though the branching of the radii becomes less regular as they lengthen; and there are not a few similar examples. From these it would appear that the mats were often of considerable size, much larger than the bases of the vessels that were placed on them. No. 9 for instance, if this view is right, must have been more than twenty inches in diameter. Nor have I observed in any instance any trace of a finished edge, such as these mats are likely to have had.

The usual and most obvious explanation of the impressions is that the vases were placed on the mats to dry before being put into the kiln (cf. 'Εφ. 'Αρχ. 1898, p. 183). An alternative explanation has been offered by Mr. Myres, who was the first to publish a specimen from the Aegean (one of unusually large size). Mr. Myres thought it more probable that the vessel had been actually made on the mat, and that the mat had been used as a sort of wheel on which a large vessel could be kept revolving without risk of distortion from contact with the solid ground. This is a tempting theory and does not seem to me to be disproved by the fact (afterwards ascertained) that the impressions occur on small vases as well as on large ones.[1] A potter working without the wheel might find it an advantage to have his material fixed on a light movable base that could be allowed to revolve or be held steady according as was needed. Mr. Myres' explanation again would fit in excellently with the fact already mentioned that the mat impressions belong to a period in which there are no certain traces of a rapidly revolving wheel. But if the conclusions drawn in the last paragraph are correct, there

[1] Cf. also *B.S.A.* vol. III. p. 63.

is one serious objection to the theory. It is only a small mat that could conveniently be used for such a purpose, and we have seen reason for believing that many at least of the mats were of considerable diameter and that the vases were frequently set down on them quite away from the centre. We must therefore fall back on the other alternative, viz., that the vases were set out on them to dry before being put into the kiln.

Similar mat impressions have been found in the Troad and in the Neolithic or early Bronze Age Settlement of Tordos in Dacia, and an isolated example comes from North Italy (Hoernes, *Urgeschichte*, p. 300; 'Εφ. 'Αρχ. *loc. cit.*). Towards the south the range of the practice extends to Crete,[1] but apparently not to Cyprus. It thus forms one of the many links between the Aegean and the north in the pre-Mycenaean age.

I now proceed to a classification of the pottery with painted geometric designs, treating it under two main heads: (1) vases with designs in lustrous black or red; (2) vases with matt black designs. The pottery of the third technique mentioned on p. 93 does not require separate treatment. It is comparatively small in bulk, and neither in the matter of forms nor of patterns does it differ essentially from (1). It will be sufficient therefore to refer to it occasionally when dealing with the types of the first main group.

§ 6.—*Vases with Geometric Designs in Lustrous Paint.*

The vases of this fabric are made of gritty, fairly hard-baked clay varying in colour from grey to red. The design is painted on a prepared ground of whitish slip applied to the outside of the vase: it is noticeable that the lower portion of the vase, below the limits of the design, is frequently left bare or very carelessly coated, and there is usually a zone of slip round the top of the interior. Below is a list of forms.

1. Pl. **VII.** 1 and **XXXIV.** 1 (to begin the list with the largest kind) are typical pithoi of the geometric period. The characteristics of the type are the broad rim, the suspension-handles and the low belly. (The pithos of the later period (*e.g.* **XXXIV.** 14) is not unlike the early type turned upside down.) There is a slight neck round the inside of the rim, visible on **VII.** 1 but better illustrated on **VII.** 2–5, which is intended for holding a lid like **VIII.** 1, and there are holes on each side of the rim for tying the lid on. **VIII.** 4 is a vase of the same type as **VII.** 1 but smaller; it is to vessels of this size that the lids **VIII.** 1–3 have belonged, though fragments were found of larger ones also: they are hollow underneath and have a small hole pierced through the centre. Still smaller vases of the same shape were made, and **VII.** 10 is a fragment of one of these. The same type, in its several sizes, was also comparatively common in red or black ware with white designs (**X.** 18 ff.).

[1] A specimen was found at Cnossos this year, but it has not yet been ascertained whether they are common in Crete.

The pithoi from the pre-Mycenaean settlement in Aegina described by Mr. Staes ('Εφ. 'Αρχ. 1895, Pl. X., 1–4) resemble the above vases in their general form, and it is evident that the type was a widespread one.

As regards the painted ornamentation the lower part of the vessel is as a rule left plain and the design does not descend below the level of the handles. Sometimes, however, as in the case of **VIII.** 4, there is a fringe of loops round the foot of the design, apparently the same motive as one which is of very common occurrence on the beaked jugs, and which is discussed more fully on p. 99. The more ordinary geometric patterns are well illustrated on Pl. **VII.** It will be observed how frequently the field is divided into vertical strips filled with varied designs. A pattern which is very characteristic of the pithoi and which occurs very rarely on any other painted vases of the geometric period is the horizontal row of concentric circles connected by tangents (*e.g.* **VII.** 1). On the geometric pottery of the post-Mycenaean age the same pattern is usually, and no doubt rightly, interpreted as a development from a frieze of continuous spirals. The earlier examples are perhaps to be explained in the same way, as evolved from, or at least suggested by a spiral frieze, though it is true that concentric circles occur as an isolated ornament on the Aeginetan pithoi mentioned above. There is a parallel case, much to the point, on the incised pottery from Chalandriane, where we find stamped concentric circles taking the place of spirals in what was originally a spiral scheme ('Εφ. 'Αρχ. 1899, pp. 87, 88). The simple concentric circles, however, are most often replaced by circles filled in with angular motives (*e.g.* **VII.** 7–8). In **VII.** 1 the space between two circles is filled up by a pattern like a double axe-head, and the same stop-gap scheme is repeated on several fragments (*e.g.* **X.** 18; cf. 'Εφ. 'Αρχ. 1895, Pl. X., 4 and 6). The small circles on **VII.** 9, and those on **VII.** 12 with a dot in the centre of each, may be derived from the small stamped circles on the unpainted ware (*e.g.* **IV.** 4).

The most interesting pattern on the pithoi is the frieze of animals on **VII.** 4. In a former paper I referred to them as 'geometric' birds. It is just as probable, however, that they represent a row of seated quadrupeds like **XV.** 14; **VII.** 4 being a conventionalized rendering, and **XV.** 14 a free rendering of the same motive. **VII.** 4 is also a prototype (in part) of certain Mycenaean patterns, of which F. and L. Pl. XXXV., 761 is the most conspicuous.

2. Fragments of pithoi with long necks (**XXXIV.** 5) were occasionally found in deposits of this period, some of them with ornamentation in relief of a rather advanced kind. The type is much rarer than 1 and is probably of later origin.

3. **XXXIV.** 4 represents another early type of large storing-vessel, resembling **XXXIV.** 1 with the upper half sliced off. It has no handles. There is a stud, like a nail-head, a little below the rim on each side. Fragments of vessels of the same shape were fairly common.

4. There is no complete specimen of the type of which **VII.** 14 has once been a fine example. The rim is like that of 1, and the rest of the body is

probably to be restored on the model of the following type, 5. The pattern, which we frequently meet with in various modifications and which indeed is but the old herring-bone pattern of the incised ware, continued to be a favourite in the best Mycenaean style (cf. **XXXI.** 8). The way in which it adapts itself to the globular shape of the vessel recalls the employment of the same device for the decoration of Saracenic domes.

5. Pl. **VIII.** 6 with the cording pattern is not so good a specimen of its type as **VIII.** 5, a vase which is now at Eton but which without doubt comes from the Phylakopi cemetery (*v.* p. 80).[1] There is another in the National Museum in Athens (No. 822; cf. Ἐφ. Ἀρχ. 1895, p. 255), which is likewise of Melian fabric. **VII.** 11 is a fragment of a small pot of the same form and with a similar division of the field into vertical strips. The alternation of narrow and broad chevrons on **VIII.** 5 deserves to be noted; it is one of the devices that recur on the mature Mycenaean pottery (*e.g.* Ἐφ. Ἀρχ. 1895, Pl. XI. 2).

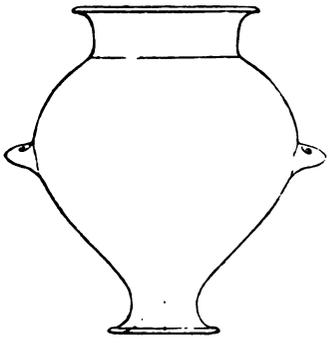


Fig. 76[2] (1 : 6).

6. Fragments of painted amphorae of the same shape as 5, but provided with a vertical handle on each side of the neck (and presumably without the suspension-handles lower down) were sometimes observed, but no whole vase was found. The type is a natural improvement upon 5.

7. Same as 5, but with a small hollow foot (Fig. 76). This also was a fairly common type, but no specimen of all that came under my observation had any pattern on it. For an interesting point of technique connected with this type see p. 94.

8. One of the most characteristic and conspicuous vase-types in the geometric period is the beaked jug or *schnabelkanne*. Those that belong to the fabric with which we are now dealing may be divided into the following varieties:—

a. Low-bellied, with fan-shaped spout; the upper end of the handle is quite separate from the lower end of the spout. No. 832 in the National Museum of Athens is a painted specimen of this type; it comes from Melos, no doubt from the Phylakopi tombs.

b. Similar to *a*, but with handle attached immediately below spout (**IX.** 1).

c. The spout is pinched together so as to form a long narrow channel. This was by far the most common type. The narrow-spouted jugs of this class vary from the low-bellied form characteristic of *a* and *b* to the globular form of **IX.** 4, which may be regarded as a later development.

[1] For permission to photograph and publish the Eton vases our thanks are due to the Rev. F. W. Cornish, Librarian of Eton College. The photographs were taken by Mr. Bosanquet.

[2] Gritty clay, varying from grey to red; lustrous red coat. Found in an unplundered tomb (see p. 23).

The ornamentation consists almost always of a series of bands encircling neck and shoulder and a pattern of some sort below the lowest band. Pl. IX. 2 is one of a few partial exceptions to this rule. One of the most common of the patterns below the circular bands consists of a ring of pendants like those on IX. 5–6; a smaller variety is shown on IX. 3 and recurs on a vase from Phylakopi that is now in Dresden (Fiedler, *Reise durch Griechenland*, ii. Pl. III. 18).[1] Can this be intended to represent a garland or necklace? The shape of the pendants resembles that of the lotus petals on Egyptian garlands and jewellery, and it is a well-known fact that Egyptian vases of the New Empire are sometimes adorned with painted garlands of lotus petals.[2] We may also compare the large and similarly shaped pendants of gold-leaf found in the shaft-graves at Mycenae (Schuchhardt, Eng. trans. p. 179, Figs. 150–152). In more than one instance we find a central pendant which in accordance with the above suggestion might be taken for a full-blown flower (see IX. 8); the whole scheme would then represent a necklace with pendants hanging on the breast, a flower-shaped one in the middle and petal-shaped ones round about.

This tempting view, however, loses some of its probability when we look more closely at the decoration of the other beaked jugs. Turning to IX. 7 we are confronted with a purely geometric design (to be compared with such as VIII. 10). On another vase of the same shape (not published) the design of IX. 7 recurs with an important modification; the vertical strips are made to curve upwards at the ends, an approach to a spiral motive which we shall meet with on some slightly later beaked jugs. Now by placing two of these curved lines back to back as on IX. 4 we get the central pendant of IX. 8; the connection is proved beyond doubt by the two narrow lines which attach the end of the curved line to the horizontal band above and which are somewhat meaningless survivals of the pattern of IX. 7. Further, when we compare IX. 6 with IX. 7, it appears probable that the ring of petal-shaped pendants as represented on IX. 6 and IX. 8 is also partly based on a purely geometric scheme of which the main element is a series of broad vertical strips.[3] The pendants of IX. 3 and of the pithos VIII. 4 seem on the other hand to have an independent origin, and it is possible that the more complex type of IX. 6 is a compromise between this and a geometric scheme such as IX. 7.

It is clear then that the patterns which I suggested might be representations of garlands or necklaces are intimately connected with other patterns which are without doubt entirely geometric. But there is no sharp division

[1] Dümmler gives one of the northern Sporades as the provenance of the Dresden vase, but this is a mistake; Fiedler expressly states that it was found in Melos. Are the bands round the lower portion of this vase an addition of Fiedler's draughtsman? If not, they are unique.

[2] I do not mean to insinuate that the ornamentation of the beaked jugs has been influenced by such vases or *vice versâ*. All I would venture to suggest is that the shape of the pendants may be due to Egyptian influence.

[3] Cf. also Pottier, *Vases du Louvre*, Pl. 29, D 5, in all probability a Phylakopi pot.

in early Aegean art between floral and geometric motives, and we shall see from many examples among the following material how prone the artist of that period was to catch at a suggestion and intermingle linear and naturalistic elements in one design. It still remains quite probable therefore that the aforesaid patterns, in spite of their dubious origin, may have been intended by the designer to impart the idea of a necklace with pendants.[1]

The design on IX. 10 is one of a very common type (*e.g.* Sèvres, 1419[4]), and, as has been already said (p. 91), it occurs in relief on the ware of sect. 4. The same motive in relief is characteristic of a certain Cypriote fabric, the dark-coloured "base-ring ware" (Myres, *Cat. of Cyprus Mus.* p. 37, 3 (*a*), Pl. II., No. 255), and it is probable that it spread westwards from Cyprus. There is a beaked jug in the Museum of Candia which forms another interesting link between the pottery of Cyprus and that of the Cyclades (Evans, *Cret. Pict.* p. 114, Fig. 106a); while the upper part of the vase resembles the Phylakopi jugs, the lower part is round-bottomed, a feature which is very common in Cypriote and very rare in Cycladic pottery; further, the painted pattern is of a common Cypriote type (Myres, *Cat.* Pl. III. No. 336), and the cross-lines on the bottom are a well-known characteristic of Cypriote vases.[2] The design of which we have just been speaking (IX. 10) is not only characteristic of Cyprus and Melos; it reappears in the Bronze Age pottery of Thrace (*Rev. arch.* 1901, p. 343, Fig. 13), and it is extremely common on the painted Egyptian vases of the Eighteenth Dynasty. This is one of the few outstanding points of contact between Egyptian and Aegean pottery, and in this case, as in a few others, Cyprus or Syria may have provided the intermediary link.

The curious fragment IX. 11 may be mentioned here. It belongs to a vase with spout and handle like those of the beaked jugs, and has an extremely sharp back, like the spine of some species of fish. No less remarkable than the shape is the ornamentation. Here for the first time we meet with the conventional motive of fishes erect or hung up by the head, a motive which reappears in the geometric pottery of the post-Mycenaean period (*e.g. Jahrbuch*, 1899, p. 34, Fig. 12, a vase from Melos). What the strange object to the right may be I am unable to explain; it is somewhat suggestive of a human figure.[3] The pattern to the left of the smaller fish, a row of round spots between two straight lines, is one that occurs frequently on Egyptian pottery of the early New Empire.[4]

[1] It has already been suggested by Poppelreuter (*Arch. Anzeiger*, 1896, p. 105) that the incised bands round the necks of the Hissarlik jugs were primarily intended for imitations of necklaces, a very probable theory. The Phylakopi jugs are akin to those of Hissarlik, and the same idea may have hung about them also. In beaked jugs of a rather later class (*v.* Pl. XIV.) the suggestion of a likeness between the shape of the vessel and the human breast is strongly emphasized.

[2] Compare the remarks of Mr. Myres, *Proc. of Soc. of Ant.* 2nd Ser. xv. 351). The pattern occurs frequently on Egyptian pottery of the New Empire.

[3] Compare the human type on the predynastic vases found in Egypt and the figure of Ishtar in Maspero, *Dawn of Civilization*, p. 695.

[4] Both as a vertical and as a horizontal pattern. This and the other parallels mentioned above establish a connection of some kind between Egyptian and Aegean pottery. Dr. von Bissing tells me that he considers the

9. Compared with the foregoing class the type of jug represented by **VIII.** 7 is very rare, and we have again to go to Eton for an entire specimen. The fragments which we brought from Phylakopi showed no peculiarity in their decoration. There is, however, an interesting vase of this form in Athens (Nat. Museum, No. 2634: provenance Melos) with a pattern of small circles scattered irregularly over the surface and connected by tangents, apparently a survival of a spiral scheme such as we find on the early incised ware (*e.g.*, Ἐφ. Ἀρχ. 1899, p. 87 ; *v. supra*, p. 97).

There were also fragments of jugs of similar shape to **VIII.** 7, but with a pinched-in mouth like that of **IV.** 12. No whole specimen.

The cups belonging to the present fabric are of two sorts, those with handles and those without.

10. Of the latter class the little cups on **XXXV.** 1–2 are by far the most common sort. The only kind of decoration that they ever have is two or three round spots below the rim. The patterned cups are larger and of slightly different shape (see Pl. **VIII.** 8 and 12); they are wider across the top and their sides are slightly convex. The designs, which are made up of the usual geometric elements, are further illustrated by **X.** 1–5.

11. The cups that have handles are of an entirely different shape. **VIII.** 9 and **VIII.** 10 are normal specimens of the type ; the small cup **VIII.** 11 has the characteristic handle, but not the usual type of base. The general shape is exactly that of the bell-shaped cups which are found in deposits of the early Bronze Age almost all over Europe (Hoernes, *Urgeschichte*, p. 272), and it is evident that the Melian group stands in close relation to this wide-spread family. Painted cups of similar form, but with a short trumpet-shaped foot have also been found in Siphnos and Syros (Ἐφ. Ἀρχ. 1899, Pl. VIII. 3, 4) ; the foot is a peculiarity which does not occur on any of the Phylakopi specimens. In Crete we find a similar type in the Kamáres fabric, but with a much sharper division between the upper and lower portions of the vessel, and this more metallic-looking type occurs in actual metal in the shaft graves at Mycenae (*J.H.S.* 1901, Pl. VII.; Schuchhardt, Eng. ed., p. 242, Fig. 241). Numerous kindred forms might be cited from Hissarlik also, and from Sicily (*e.g.*, Schliemann, *Ilios*, Eng. ed., No. 1097 ; Dörpfeld, *Troja*, p. 103, Fig. 51).

It will be observed that the Melian cups are further differentiated from the Syros and Siphnos type by the shape of the handle. One exceptional specimen of the present class had a high, flat handle with a slight groove down the back (cf. **X.** 7).

The patterns, which are arranged in horizontal bands, are of the simplest geometric kind, very like those of the early incised ware. Pl. **X.** 14 is an imitation in paint of the stippled schemes discussed in Sect. 3.[1] On **VIII.** 9 and **X.** 17 we find the common angular pattern of **X.** 12 developed into rows of arcs and festoons.

Egyptian pottery in question to have been derived from Asia, a view which accords with the remarks in the text. For a specimen of Cypriote importation see p. 158.

[1] Cf. the patterns on the so-called 'Aegean ware' from the royal tombs at Abydos ; Petrie, *Royal Tombs* II, Pl. LIV.

12. The so-called *Kernoi* of Phylakopi have been described very thoroughly by Mr. Bosanquet (*B.S.A.* vol. iii. pp. 57 ff.). He distinguishes two main types, one in which the central bowl is seated on the stem and the ring of cups is attached to the central bowl, and another in which the cups (or the inner ring of them if there are two rings) are seated upon the stem and the central bowl is attached to them by horizontal bars but is not supported from underneath. Pl. VIII. 14 belongs to the second type, but we found fragments of the other class also.

Pl. VIII. 14 was found in a tomb (see p. 23), and from the number of specimens that have been traced to the Phylakopi cemetery it is evident that the *Kernos* was a very common article of tomb furniture. They do not seem however, to have been made exclusively for sepulchral uses, for in the season of 1899 a good many fragments were discovered among the houses in the fortress. What purpose they served remains uncertain. It seems to me very possible that they were used for holding flowers, like the Egyptian vases recently discussed in *Rec. des Trav.* pp. 177–182. Another view is that they were intended for religious rites, in which case we may compare the array of cups on Egyptian offering-tables, and also the *Kernoi* proper of classical times.

Composite vases consisting of two, three, or four cups are of common occurrence in this period (see Pl. XI. 12 and Figs. 135, 136), and it is evident that the *Kernos* has been developed out of these simpler forms. The nearest approach to it as a whole is the early triple vase published by Mr. Bosanquet (*B.S.A.* vol. iii. p. 54), and the small twin-vase on Pl. XI. 12 may be compared for the shape of the individual cups.[1] These minor multiple vases, however, do not seem to have been more than occasional experiments on the part of the potters, whereas the *Kernos* itself became a fixed and favourite type.[2]

13. The large pyxis figured on Pl. VIII. 15 has a high neck with a projecting ring round the foot of it. The neck, which is left unpainted, was of course intended to be covered by a lid of somewhat the same type as IV. 4, the lower end of which would rest upon the ledge below. The above vase is the only example of the type that was found.

14. VIII. 13 is part of a small rectangular box standing on four short legs. It belongs to the present fabric.

§ 7.—*Geometric Pottery with Designs in Matt Black.*

The second main group of geometric pottery consists of those vases which have designs in matt black upon a chalky white ground. It has much in common with the first group; we find the same system of potters' marks employed, many of the letters occurring in both fabrics, and the same method

[1] Cf. also a much larger twin-vase in Sèvres (1419[8]; Brongniart et Riocreux, viii, 3).

[2] The practice of making multiple vases is so common and widespread that it is unnecessary to cite any of the numerous parallels from the Aegean itself and from the surrounding civilizations.

of attaching the handle (p. 94); there is a general resemblance between the decoration of the two classes; and several of their respective shapes are either identical or closely akin. On the other hand there are some distinct differences, one of which I wish to emphasize in advance. The first group, that which has been described in the preceding section, stands apart, beyond any risk of confusion, from the pottery of the next great period, the early Mycenaean kinds. Not so the second group. This fabric merges in the later style, the earliest pottery of which, as we shall see, is also characterized by matt black designs. The ornamentation bears witness to an increasing fondness for curvilinear motives. A few of the vases and fragments of section 9 (*e.g.* **XVI.** 13) might be grouped with the present class on the ground of similarity in clay, slip and paint. It is impossible, in fact, to make a perfectly clean division between the two classes and we must be content with a slightly ragged break.

The clay of the following vases taken as a whole is rather coarse and varies in colour between dingy grey and light red according to the amount of baking which it has undergone. It can be easily distinguished as a rule from the clay of the preceding group.

The types that have survived are as follows:—

1. The amphorae of the present fabric (**XI.** 5–6) have a different shape from those of section 6, No. 6, recalling rather such early forms as Fig. 71. One unpublished specimen, however (left behind in Melos), comes somewhat nearer the shape of **VIII.** 5. They have a pinched-out mouth for pouring out of, as shown in **XI.** 5. The surface of **XI.** 6 is covered with small protuberances, and the same peculiarity reappears on a good many fragments of the present class.[1] **XI.** 6 is a good representative of a small group of vases which, though really belonging to the present fabric, have their patterns painted not in matt black but in the glaze-pigment of section 6, interesting evidence of the contact of the two techniques.

The bird on **XI.** 5 is perhaps engaged in pulling a worm out of the ground, a subject which occurs on geometric pottery of the later period, and the other side of the vase is occupied by a second bird, which in this case has no legs. The latter might be interpreted as flying with its legs tucked out of sight (cf. the more realistic fragment with the flying swallow on p. 120). The star in front of the long-necked bird is repeated on the other side.

2. The small jug **XI.** 4 has had a narrow-channelled spout like **IX.** 2; and we found a few fragments of other small vases of the same type. The larger jugs with matt black designs are of two kinds; either they have a narrow beak like **IX.** 2, but with a slight downward curve at the point (cf. **XXIII.** 5), or else they have a short wide spout like **XI.** 3. The upper end of the handle is attached to the rim of the spout behind (and not to the back of the neck as in the case of the beaked jugs with lustrous designs); the lower end is stuck through the wall of the vase in the usual

[1] Cf. some early Cretan ware.

way. As regards the general shape, we find both the low-bellied and the globular types of sect. 6 (XI. 2 and XI. 1).

The ornamentation consists usually of bands round the neck and a pattern round the body. This pattern is sometimes of plain geometric construction (*e.g.* same pattern as on XI. 14), but sometimes also we come upon a representation of a more interesting kind. The geometric birds with their cross-hatched bodies[1] on XI. 2, XII. 24, 26, 27, are remarkable as the earliest examples of a type that lasted down to the sixth century B.C. (cf. for instance the birds on the dedicated bowls found in the *temenos* of the Milesian Apollo at Naukratis; see Pottier, *Vases du Louvre*, pl. 11, A 290). The boat on XII. 23 is provided with a row of oars and a large steering-oar like V. 8, but it has also got a mast and sheets. Other fragments make it evident that we are in the period of transition from angular to curvilinear schemes. On p. 99 it was pointed out that the vertical strips of IX. 7 were in other specimens becoming transformed into hooks or pendant spirals. In the present fabric we sometimes find a row of pendant spirals of this kind separated from each other by vertical lines, while in XI. 1 they are connected with each other by a spiral chain. The interrupted spiral, or 'running hound' pattern, also occurs on the beaked jugs. XII. 22 may be either a conventional serpent or a mere curvilinear scheme; or, what is a quite permissible view, it may be a mixture of the two things.[2]

3. The cups of this fabric are of the same shape as sect. 6, No. 11 (see XI. 9–11, and XI. 13); XI. 11 and 13 have a slightly higher and more elegant handle. Almost all of them have a pattern of the same type as XI. 9. XI. 13 is an exception; another specimen has nothing on it except horizontal bands; and there are one or two other fragments with various simple schemes. Though so limited in their ornamentation, these little cups were extremely common.

4. The double cups XI. 12 have been already mentioned in connection with the *Kernoi* (p. 102). Their general shape is that of the amphorae of the present fabric, XI. 12 resembling XI. 5 and a fragmentary specimen (unpublished) having the same round form as XI. 6.

5. The type represented by XI. 7–8 will be discussed in another place (p. 143); it forms one branch of a large family and it is better not to separate it from its kindred. The fragments on Pl. XII. 1–18 all belong to vases of this form though of varying sizes. In some cases (*e.g.* 3 and 15) the colour of the design is brown instead of the usual dead black. This is probably the slightly lustrous pigment of section 5 (cf. p. 103), though I do not speak with assurance on such a point.

6. The large vase XI. 16 is a development of the same type. Fragments of similar size were fairly common.

[1] Cf. also the later Mycenaean type, *e.g.* *Myk. Vasen*, Pl. xxxix, 397. A similar "wing" occurs on one of the geometric fragments from Phylakopi (unpublished).

[2] Cf. the serpents on an archaic Egyptian vase, *Naqada and Ballas*, Pl. xxxv, 71, and for a later example of the same type see Daressy, *Textes et Dessins magiques*, Pl. xi, No. 9434.

7. **XI. 14**, if correctly restored,[1] stands in close relation to a widespread type extending from Anatolia to Western Italy.[2] The painted fragment **XII. 20** comes from a vase of the same form.

8. The straight-sided jug with the lattice pattern **XI. 15** is a specimen of another favourite form, the pattern being always the same.

Such are the types of which we have whole or almost whole specimens. The large fragments on Pls. **XII.** and **XIII.** probably come from pithoi of the same general shape as those of Section 6, with horizontal suspension-handles, and some other fragments may have belonged to similarly shaped vases of smaller size. But I shall not attempt to enlarge the list by further conjectures.

The ornamentation of this fabric as a whole deserves special attention. Although curvilinear motives are beginning to appear in force as the forerunners of a freer style, yet the mass of the designs is of the same angular character as those of Section 6. It is interesting to compare the two sets. While many of the more ordinary elements of geometric decoration are common to both, and also some less obvious ones (such as the round dots applied to the apices in **X. 2** and **XII. 14**), there is a considerable difference between the two groups of designs both in the general effect and in the details. Of the details that are especially characteristic of the matt black designs the most conspicuous is the compass-shaped pattern of **XIII. 5, XII. 12** with its sharp-pointed legs (cf. the incised ware **IV. 5**): there is possibly some connection between a frieze of this pattern such as **XII. 14** and the row of vertical crescents which is characteristic of the later Melian style as well as of archaic Greek art (see p. 122).[3] It is unfortunate that the designs on **XIII. 1–8** are so fragmentary; the system apparently was to fill up the spaces between two vertical bands with a rather loose arrangement of crosses, swastikas, compasses and other similar patterns. The smaller *Füllornamente*, the short zig-zag line on **XII. 30, XIII. 1**, the star on **XII. 20–21**, the angular detail on **XIII. 8** and the swastika of **XII. 9**, ought to be noted. Lastly there are the animal representations, the men, birds, fishes (**XII. 28** ?), and quadrupeds. Some at least of these representations, particularly the birds and men,[4] are probably executed after conventional schemes current in the Aegean. The fact that they reappear almost unchanged in post-Mycenaean work indicates that they were not a mere local experiment.

[1] It is doubtful whether there should be two handles, or only one. The handle ought to be round in section and not flat as in the restoration.

[2] For Aegean specimens of the type, cf. Schliemann, *Ilios*, p. 593, no. 1376 ff.; *Troja*, p. 91, Fig. 32; *Amer. Journ. of Arch.* 1897, p. 302, Fig. 13; Ἐφ. Ἀρχ. 1899, Pl. ix, 27.

[3] It should be noted that the angular pattern occurs on the Cretan jug, **XXIV. 8**.

[4] The hour-glass type of figure occurs frequently on the Georgian pottery published in *Rev. Arch.* 1902, p. 74. A few isolated examples of the same type from Cyprus and other places are mentioned by Hoernes, *Urgeschichte*, pp. 601, 602. All these, however, are of later date than the Phylakopi fragments. The type is probably an exaggeration (very natural in a geometric style), of the conventional mode of representing the human figure with shoulders to front and waist and legs in profile. In at least some figures, such as Pl. **XIII. 18**, the lower of the two triangles may have been intended for a loin-cloth.

Many details among our illustrations will be recognized as common motives in the later geometric period, and there can be no doubt that there exists a connection of some sort between the two styles. The origin of the later geometric style is a complicated matter which there is no need to discuss here, but to some extent it may be said to be a recrudescence of an earlier phase of art of which the Melian vases are the best examples known and of which there are traces even in the mature Mycenaean period. It stands in somewhat the same relation to this earlier style as archaic Greek pottery of the 'Orientalizing' type to genuine Mycenaean pottery, many of the details being evidently inherited but the history of the connection remaining obscure.

As an appendix to this section I must mention a class of pottery on which we find a combination of two different techniques, the surface being partly covered with a lustrous red coat and partly decorated with black designs on a white ground. The clay is the same as that of the vases just described. XIII. 11 is a specimen of this variety. But it is only on one type of pot that this method is at all common, the shallow, spouted dishes dealt with in Section 15.

§ 8.—*Pottery of the Mycenaean Period: Introductory.*

We have now arrived at the second of the two main phases into which the prehistoric art of the Cyclades can be divided. The older style was conspicuously geometric, angular for the most part, with a certain admixture of spiral and circular designs; the new style is curvilinear above everything, full of naturalistic motives and free to a fault. It is now that the characteristics of Mycenaean art make their appearance in full force. We have already noticed signs of their approach; the fabrics with which we have now to deal will be found completely given over to them.

How far back are we to carry the term 'Mycenaean'? Various writers have differed greatly in their usage of it. Furtwängler and Löschcke did not make it cover the Santorini vases, although they included in their list some geometric pottery like the early Melian with which we have been dealing. Mr. Evans speaks of the Kamáres pottery as pre-Mycenaean. Mr. Blinkenberg groups together the geometric Melian and the Santorini types under the title proto-Mycenaean. The authors of the former reports on Phylakopi, including myself, restricted the term Mycenaean as far as possible to the period of decline,—not without exciting some criticism. More definite and appropriate names will no doubt come into use in course of time. Meanwhile it must be admitted that so long as we continue to call the contents of the shaft-graves at Mycenae Mycenaean, it is unreasonable not to extend the name to the Santorini and Kamáres vases, which are, roughly speaking, contemporary products of the same artistic movement. On the other hand we must draw the line somewhere, unless the term is to cover the whole prehistoric culture of Greece. I have used it,

therefore, in these pages (merely as an aesthetic term and without any ethnological prejudice) to denote the free, naturalistic style which now begins to prevail and have not applied it to the earlier geometric style. 'Proto-Mycenaean,' a word of very vague connotation, I have thought it safer to avoid altogether.

Following the principles of Furtwängler and Löschcke's classification we can distinguish four phases through which the local pottery of the Mycenaean period passes. In the earliest stage the designs are applied in matt black only: in the next stage we find a combination of matt black and lustrous red or brown, the latter being used as a subsidiary colour; in the next phase the lustrous pigment has become the dominant one and the matt black the subsidiary; lastly the matt black disappears altogether. We may distinguish the two intermediate groups by calling them respectively the 'black and red' and the 'red and black' styles. Accessories in white, such as a row of white dots along a red band, are of common occurrence on the later vases. The above distinctions are roughly chronological but must not be pressed too rigorously as a criterion of date. It is probable that on certain common types such as **XXXIII.** 20 the use of the matt black technique was kept up through force of association after its general decline.[1]

On most vases of the 'black and red' class, and on many later ones also the lustrous pigment is a clear red. But on others, especially the later ones, it presents the same appearance as that of the ordinary Mycenaean pottery, varying from deep black to bright red according to the heat to which it has been subjected. Whether in the two cases there is any difference in the composition of the colouring matter, I am unable to say: it is evident, however, in the case of the 'black and red' and 'red and black' designs that a distinct red must have been aimed at originally for the sake of contrast with the black. The prevalent tone of the lustrous pigment with which the vases of Sect. 6 are painted is a rich blackish brown against which the matt black of the following fabrics would scarcely show up at all: for a polychrome design it was necessary that the glaze should be of a uniformly lighter colour than this. The red parts of the 'black and red' designs sometimes bear traces of having been polished, while the 'red and black' vases have in several cases been polished all over the surface after painting, with the result that particles of the paint have got rubbed into the surrounding slip.

We also find pottery with white designs on a lustrous red ground belonging to the present period. One group of fragments in particular had designs in white, of the same character as those of Sect. 9, painted on a highly polished red surface; of these, however, we have no adequate illustration to show, as the white has almost wholly vanished. Cf. also p. 154. In other cases the surface is left unpolished and shows but a faint lustre; the fine

[1] To adhere to the actual classification of F. and L. would be impracticable. Part of the following material, however, might be classed under the 'pale clay' group of '*Mattmalerei*,' part of it under the second style of the '*Firnismalerei*,' the remainder standing midway between the two.

fragment Pl. **XXIV.** 9 is from a large vessel of this description. Similar red-faced ware but without patterns was not uncommon (*e.g.* **XXV.** 3); it was noticeable that the later specimens were unpolished and almost void of lustre. There were also a few red-faced fragments with designs in matt black, but this combination seemed to be very rare: one of the patterns employed was of the same type as that of **XIX.** 9.

The bulk of the following pottery is of course wheel-made. A great many of the earlier vases, however, like the geometric classes, show no certain traces of the wheel, while some bear distinct signs of having been formed by hand. On the later ones the marks of turning are very evident and can be recognized on many of our illustrations. In contrast with the custom prevailing in the geometric period the handles are now merely attached to the outside of the vase instead of being stuck through the wall; to this rule there is no exception. Further, the letters or trademarks so characteristic of the geometric fabrics have now almost entirely disappeared, the only exception of any note being that some of the earlier vases have a group of two or three small dots impressed on their bases in the same way as many of the geometric pots.

The clay of the following fabrics is somewhat soft and granular, not nearly so fine and hard-baked as the mature Mycenaean pottery of Furtwängler and Löschcke's 3rd and 4th classes. It varies in colour from very light greenish and yellowish tinges to a light red. The patterned vases are covered with a light-coloured slip which as a rule shows up pretty clear in a break against the somewhat darker paste below; in some cases, however, the slip is baked in parts to a light red of the same shade as the clay, while in other cases clay and slip are equally pale-coloured and indistinguishable from each other.

§ 9.—*Pottery of the Early Mycenaean Style with Designs in Matt Black.*

1. We may begin the list with a type of vase the general shape of which is common both to the old style and the new, I mean the beaked jug. **XIV.** 1 illustrates the usual form which it assumes in the present fabric. Compared with the older form it is somewhat elongated; it has a slight foot, flat or a little hollowed underneath, and a long-channelled spout, more or less flanged at the end; the handle, as said before, is attached externally. Frequently a suggestion of the human form is produced or emphasized by the addition of two small nipples in front; usually a round eye is painted on each side of the spout; and occasionally the throat is made with a lump in front like "Adam's apple." Jugs of the same shape are known to us from Santorini and Amorgos (Dumont et Chaplain, Pl. I., *Ath. Mitth.* 1886, Beil. 2).

The ornamentation is frequently composed of narrow friezes with various patterns running round the upper part of the vase (*e.g.* **XIV.** 4). This arrangement, especially on the beaked jugs, might be called the necklace type of decoration. **XIV.** 7 presents an example of two of the com-

monest of these patterns, the short vertical lines and the leaf-shaped pendants,[1] both of which are very like the beads on Egyptian necklaces. Many indeed of the narrow friezes bear a close resemblance to Egyptian jewellery. Taking the most outstanding work of this type and of this era, the gold necklace of Queen Ahhotep of the 17th dynasty (Maspero, *Archéologie Égyptienne*, p. 309) we find on the Phylakopi vases of the present fabric the discs, the spirals, the crosses (*e.g.* **XVII.** 9), and, what is more remarkable, the line of little cats seated on their hindquarters with ears cocked up is unmistakably paralleled by **XV.** 14. It is also very possible that the ibex on **XVIII.** 16 is a fragment of a frieze like that on the necklace. As will be seen, the decoration of the present fabric as a whole has much in common with the gold ornaments from the shaft-graves at Mycenae. It is not unlikely therefore that it may have undergone Egyptian influence through the medium of gold-work whether native or imported.[2]

XIV. 3, 5–10 exhibit a freer system of decoration. The curious goblin creatures on **XIV.** 6, when looked at closely, become slightly more intelligible than they appear at first sight. The outward curve in which the outline of the face ends on the one side, meaningless as it is in a face represented to front, connects them with a series of animal and semi-animal designs to which the same trait is common (*e.g.* **VII.** 4 and Fig. 89). The serpentine shape of the goblin is essentially the same as the outline of the geometric animal with the back omitted. In short **XIV.** 6 is a grotesque transformation of the type. **XIV.** 9 contains a similar monster with the addition of a common spiral pattern placed above its head to suggest hair (*cf.* **XIX.** 8). Such an interweaving of linear and naturalistic motives is very characteristic of the period. Thus even the eyes of the animal on **XIV.** 6 are an extract from a frieze pattern like **XV.** 4 and 10.

Other favourite elements in this looser system of decoration are the quatrefoil, sometimes enclosed within a circular border, isolated leaves or beads as on **XIV.** 11, **XVIII.** 2, sets of four small dots, hatched triangles with curving sides[3] (used to suggest wings in the case of the goblins discussed above), and spiral patterns like Ionic volutes (*e.g.* **XIV.** 1, 5, 10). The practice of filling up the interstices of the coils with short parallel curving lines (*e.g.* **XIV.** 10) recalls the gold plaques from the shaft-graves at Mycenae on which spiral motives are frequently embellished in the same way (*e.g.* Schliemann, *Mycenae*, Eng. ed. p. 323, No. 491): the same device is common on Kamáres pottery. The running griffin on **XIV.** 2 furnishes another link with Egyptian art as well as with the shaft-grave jewellery (cf. Schuchhardt, Eng. ed. p. 201,

[1] Cf. a pattern of the later geometric period, *e.g.* Schliemann, *Tiryns*, p. 96, no. 19.

[2] The best instance of such importation is the Egyptian "aegis" found at Enkomi (*Excavations in Cyprus*, Pl. V).

[3] Cf. a floral ornament of similar shape found on gold work (*e.g.* a gold necklace from Kalyvia near Phaestos) as well as on pottery and gems (*e.g.* *J.H.S.* 1902, p. 80, no. 31): it occurs also among the Tell el Amarna moulds (Petrie, *Tell el Amarna*, Pl. xx. no. 531). On Mycenaean pottery it sometimes takes the form of a vertical border like a "bouquet" of lotus flowers.

Fig. 186). It ought to be compared with a well-known Egyptian specimen figured in Maspero, *Arch. Ég.* p. 301, Fig. 278.

2. The shallow bowls of XV. 17–20 are also very typical of the 'matt

Fig. 77[1] (1 : 3).

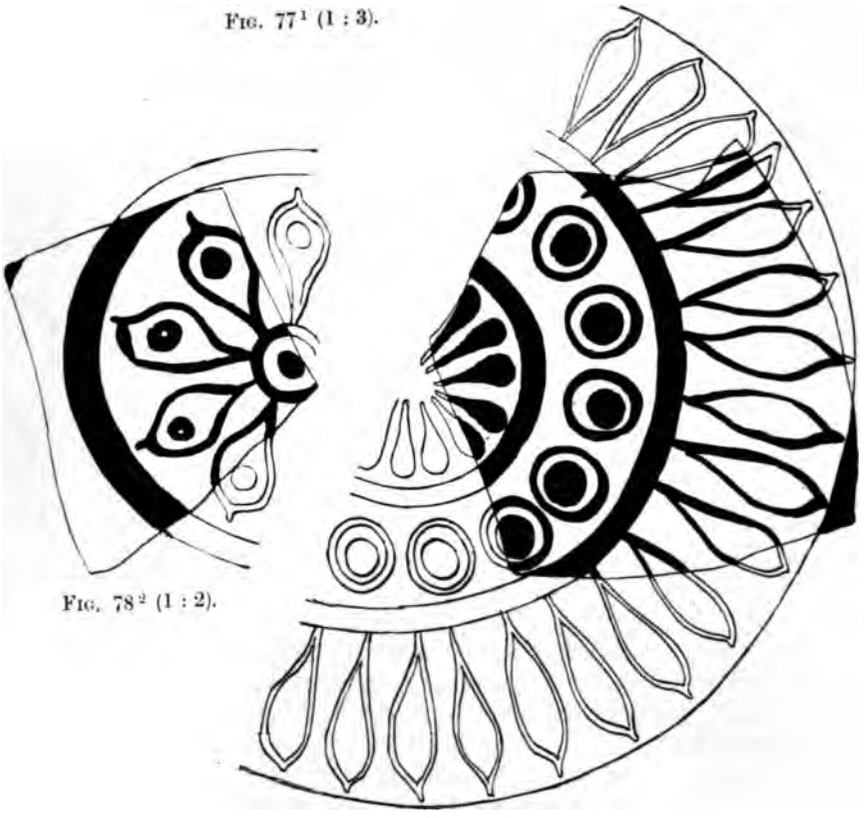


Fig. 78[2] (1 : 2).

Fig. 79[3] (1 : 2).

Flat, Two-Handled Vases.

black' class of pottery. For the form see Fig. 77 and Pl. XV. 20; it is like that of certain large bronze vessels from the shaft-tombs. They have

[1] Outside of Pl. XV. 20.

[2] Greenish surface; matt black paint.

[3] Greenish white surface; matt black paint; incised mark on underside, of same type as B 15 in the Table of Signs, p. 179.

two handles, erected on opposite sides of the rim; the rim is flat on the top and has a very slight outward projection; the base is convex but the curve is

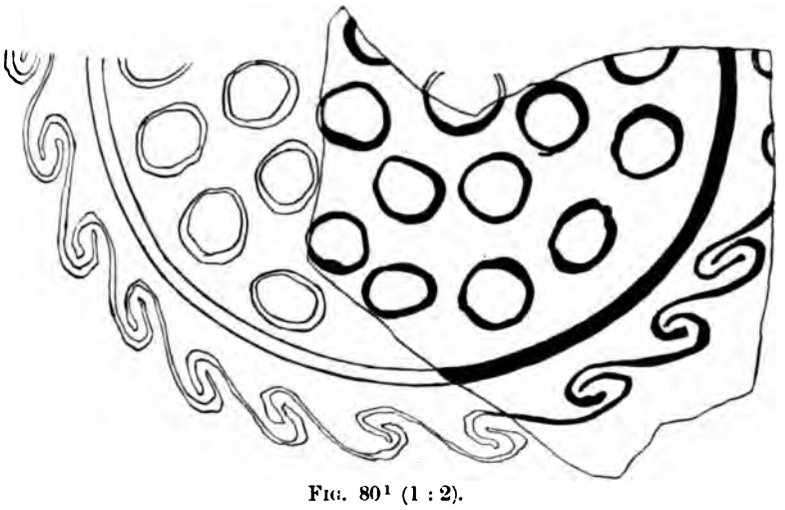


FIG. 80[1] (1 : 2).
FRAGMENT OF FLAT, TWO-HANDLED VASE WITH DESIGN RESTORED.

so slight that the vessel stands perfectly well. Except for a black band a little below the rim, the outside is left plain. The inside is invariably covered with designs.

FIG. 81[2] (1 : 2).
FRAGMENT OF FLAT, TWO-HANDLED VASE WITH DESIGN RESTORED.

The illustrations show the ways in which the ornamentation is arranged. Here again many of the details recall the finds from the shaft-graves at

[1] Reddish clay; whitish surface; matt black paint.

[2] Very light-coloured; black band round outside of rim.

Mycenae, particularly the great quatrefoil on **XV.** 18, the rosette and discs on Fig 79 and the rosette with curving petals on **XV.** 17. The outer

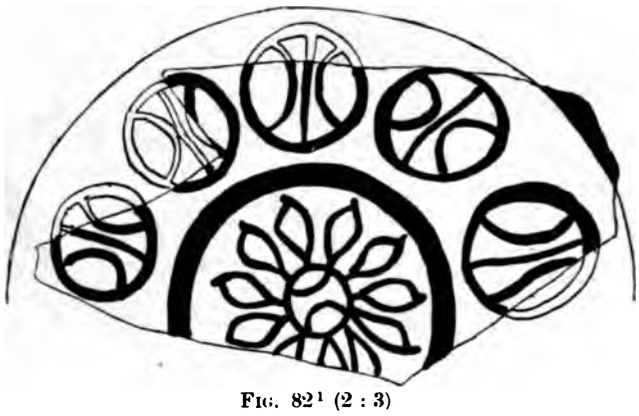


FIG. 82[1] (2 : 3)

FIG. 83[2] (1 : 2).

FIG. 84[3] (1 : 2).

pattern on **XV.** 20 and Fig. 79 is one we have already spoken of in connection with the beaked jugs,—applied in this case to a concave surface.

[1] Greenish surface; matt black paint; slightly raised base, surrounded on outside by a zone of petals.

[2] Yellowish clay and surface; matt black paint; slight base.

[3] Clay and surface somewhat reddened; matt black paint; slight base, surrounded on outside by black band; black band round outside of rim; two impressed dots close to base.

Fig. 81 recalls the interwoven spirals on the early incised ware, but the design is really quite different; it consists of radii of spiral chains diverging from a common centre.

3. The fragments on Pl. **XIX.** 1–5 belong to vases of similar shape to 2, but of larger size and with a flat base. They are usually decorated on the outside with a band round the base and a wavy line below the rim. The designs on the interior are freer and more naturalistic than those of 2.

Fig. 85[1] (1 : 3).

Fig. 86[2] (1 : 3).

Especially remarkable is the ivy-leafed plant on **XIX.** 1. Several specimens of this type (*e.g.* **XIX.** 5) show a combination of black and red paint, and on the latest examples the designs are in red or brown entirely.

4. (*a*) Many of the shallow cups of the type of Fig. 85 have the interior decorated like the preceding vases. The handle is flat; there is a slight inward curve round the outside of the rim; the base is flat and slightly raised.

Fig. 87.—Flat Cup (Restored)[3]. (2 : 3.)

Both rim and base are surrounded by a black ring. **XV.** 15–16 and Figs. 82–84 belong to this class. The most interesting of the designs is the monster on Figs. 83, 84, a creature of fancy of the same order as the type discussed on p. 109; it bears some resemblance to a rather invertebrate griffin on one of the shaft-grave vases (Schuchhardt, Eng. ed. p. 272).

(*b*) Other cups of the same shape have the decoration on the outside, the inside being left plain or covered with a coat of powdery red. In only a

[1] Restoration, to show the type.

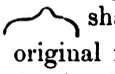
[2] Light-coloured clay; matt black paint; remains of somewhat powdery red coat inside; slight concavity round outside of rim. For the pattern round the top cf. a leather quiver from the tomb of Maherpra (Daressy, *Fouilles de la Vallée des Rois*, Pl. X. 24072).

[3] Reddish clay; smooth surface; matt black paint.

few cases are both inside and outside ornamented. As a rule the designs are applied in horizontal friezes (*e.g.* **XV.** 7–10). Sometimes the base is surrounded by a rosette pattern (*e.g.* Fig. 87). **XV.** 11 is one of a few instances in which we find the system of vertical division.

(*c*) Similar to (*b*) except that there is no groove round the outside of the rim. **XV.** 1–4, 10, 12 are representatives of this type.

(*d*) The cups and fragments numbered 11–19 on Pl. **XVI.** are made of less fine ware than the preceding groups and have a different system of ornamentation. They have no foot, being merely flattened underneath. On some of them, no doubt the earlier ones, we find the chalky white slip characteristic of the geometric pottery of Sect. 7, but the majority of them are of the ordinary later Melian ware and are covered with a coat of lustreless red on the inside. The usual, if not invariable, method is to confine the design to that half of the vase which is on the right side of the handle and which in drinking would be turned towards the company. The designs are partly spiral and partly floral, the floral motives becoming more common on the later specimens. Here for the first time we find the palmette, usually pendant as on **XVI.** 12. The fan-like arrangement of the leaves is perhaps derived from the same class of Egyptian schemes from which the striking pattern on Fig. 96. is certainly copied (*e.g.* Maspero, *Arch. Ég.*, p. 284, Fig. 264). On **XVI.** 11 we have a growing plant of a common and conventional type.

The border round the rim of **XVI.** 13 is one of the most hackneyed motives of the early Mycenaean style in Melos.[1] It is usually drawn as a running pattern, *e.g.* **XVII.** 4, and is apt to degenerate into an irregular scrawl as on **XVII.** 14. But it is sometimes drawn as a row of  shaped figures close together (*e.g.* **XX.** 16) and this is probably the original form of the border. frequently appears also as an isolated device (*e.g.* **XX.** 14) and a scale pattern with scales of this shape is common on later Mycenaean pottery. The origin of the figure is uncertain, but the later history of the border pattern is apparent at a glance; it is evidently a forerunner of the Aeolic kymation.

The two interesting fragments **XVI.** 20–21 stand half-way between (*b*) and (*d*). They are made of the same finely prepared paste as (*b*) and have a tiny projecting rim; but they have no foot and the ornamentation is apparently confined to one side of the vase. The subjects present a remarkable contrast with the birds and fishes of Sects. 6 and 7.

As is indicated by the thin flat handle, the general type of which (*a*), (*c*) and (*d*) are slightly different developments, was probably first expressed in metal. And at least one metal specimen exists, for a fine silver vase of this shape was found at Mycenae, ornamented with designs running in horizontal friezes (Perrot and Chipiez, p. 813, Fig. 381).

5. Still more common than the preceding class is the type of cup of which

[1] Cf. a border of somewhat similar appearance on a Mycenaean stele, Schliemann, *Mycenae*, p. 92.

so many specimens are exhibited on Pls. **XVI.** and **XVII.** In the matter of shape there is very little variation among them. **XVI.** 6, which on technical grounds may be regarded as one of the latest in the whole group, has a rather more elegant foot than the others and the handle sits a little higher. **XXIX.** 3 may be cited as a decidedly later development of the same type; the upper part of the vase has a concave curve and the pattern is painted entirely in lustrous red.

For vases of the same shape found at Mycenae and Santorini see F. and L. Pl. xii, 79, xxiv, 176–8; it will be observed that those from Mycenae differ somewhat from the Melian group. The form appears to be the prototype of the long-footed kylix so characteristic of the mature Mycenaean period.

Occasionally some details in the design are executed in lustrous red or brown, and the pattern of **XVI.** 6 consists of a semi-lustrous brown panel dotted with white spots. As often as not the inside is covered with a coat of matt red.

The ornamentation of these cups is confined to that half of the vase which is to the right side of the handle, as in the case of 4 (*d*), and is enclosed

FIG. 88.—PANELLED CUP WITH FLORAL DESIGN (1 : 3).

within two vertical lines. For that reason we came to call them by the name of panelled cups, and, as the name is a convenient one, I shall continue to use it. The only exception to the above principle is **XVI.** 7, the body of which is completely encircled by the design. A frequent device is to place the chief design in the upper portion of the panel and to fill up the lower portion with horizontal bands arranged in various ways and sometimes diversified by a curving line (*e.g.* **XVI.** 8–9). The band above the foot goes of course right round.

Among the purely linear patterns **XVII.** 7 and **XVII.** 8 will be easily recognized as variations on **XVII.** 2 and **XVII.** 5 respectively. Curvilinear and vegetable motives intermingle a good deal. On **XVI.** 5 we find a row of spirals half transformed into a row of growing plants; **XVII.** 26 is another instance of the same kind, while **XVII.** 28 is definitely a plant. In **XVII.** 33, again, we have a small flower or fruit grafted on a spiral.[1] Another character-

[1] The small appendages on **XVII.** 13 may also be of vegetable origin (cf. **XXX.** 1).

istic design is that which is shown on **XVII.** 22–23, and which consists of little groups of leaves attached at intervals along a wavy line (the wavy border mentioned above, p. 114). A more formal motive of the same kind is the row of palmettes which we see on **XVII.** 19–20. Fig. 88 presents a different combination of similar elements; the plants or palmettes are here arranged one above another in the manner of an Egyptian bouquet. The three leaves on this design are a common feature of Mycenaean decoration (*e.g.*, **XVII.** 17 and **XXIV.** 10), and are also one of the elements out of which the strange flower known as the lotus-palmette was evolved. The pattern on **XVI.** 3 represents a row of *bucrania* laid on their sides and a bronze jug from Mycenae is decorated with a similar frieze round the shoulder (Perrot and Chipiez, p. 966, Fig. 554).[1] Lastly, there remain to be mentioned the living

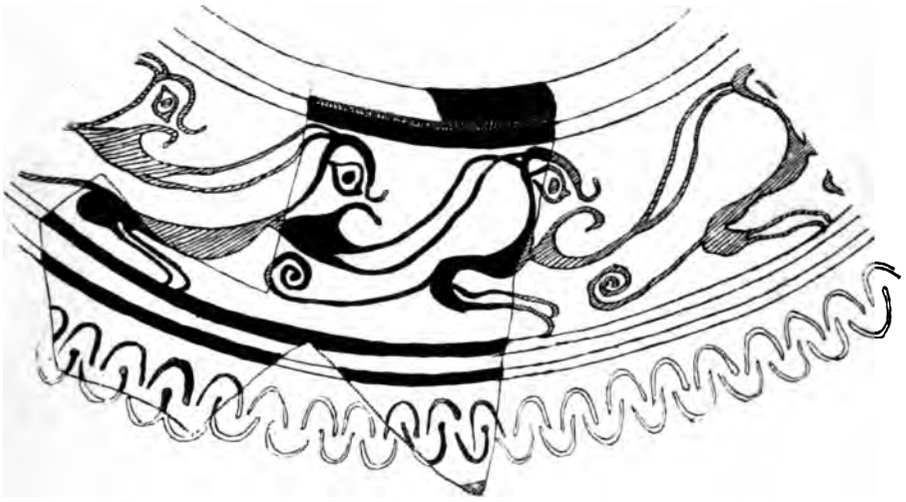


Fig. 89.—Fragment with Frieze of Animals (Restored).[2] (2 : 3.)

animals, the long-necked bird on **XVI.** 1, the flying birds on **XVI.** 2 and 4, and an unpublished fragment showing part of a fish. The bird among the plants in **XVI.** 4 is a charming little sketch in the true Mycenaean spirit. With its round body and single wing it is of the same type as the black and red birds of the following section (Pl. **XXI.**).

6. Fragments of vases of the same general form as **XXV.** 1 were not uncommon. They have usually two round-arched handles; sometimes there is also a vertical handle at the back, and sometimes we find a basket handle similar to that of Fig. 91 (*e.g.* **XVIII.** 5). Sometimes they have a flat-topped rim; but more frequently the edge of the opening is plain, as though the top of the vase had been sliced clean off (*e.g.* **XVIII.** 11–12). The spout is usually

[1] Cf. also such late Mycenaean patterns as F. and L., *Myk. Vas.* xxxv, 354.

[2] Light-coloured clay with smooth, greenish surface; matt black paint. (The chests of the animals ought to be fuller than they appear in the above restoration.)

of the same shape as that of **XXV.** 3, &c., but in some cases it ends in a sharp point. The neck of **XXV.** 9 is a later development; I have not observed any certain example of it in the 'matt black' class.

The animals on Fig. 89, seated on their hindquarters, and placing their forepaws on each other's heads, have been already alluded to (p. 109). It should be added that their attitude bears a suggestive resemblance to that of certain monsters on Egyptian friezes, birds or bats with human arms,

Fig. 90.—Red-Faced Jug with Design in White[1] (1 : 3).

seated in a row and holding up their hands (*e.g.*, Maspero, *Archéologie Égyptienne*, p. 258, Fig. 235). **XVIII.** 5 has an appropriate binding pattern round its basket handle: the fragmentary object between the handle is probably a bird or fish; there is a bird with a similar tail on one of the jugs from the shaft-graves at Mycenae (Schuchhardt, Eng. ed. p. 271, Fig. 278).

7. **XIX.** 7 is a fragment of a large straight-sided vase, probably with a spout opposite the handle (cf. **XI.** 15). The pattern[2] is interesting from its likeness to that puzzling Egyptian type of flower, with a fan of petals between two curled-over 'falls,' the so-called lotus-palmette. The combination of various floral motives into fantastic forms is a familiar characteristic of Mycenaean art, particularly conspicuous on the large Cretan vases of the

[1] Lustrous red surface (much injured by salt); cross lines on base. Probably not Melian.

[2] Cf. the trees or flowers in Schuchhardt, Eng. ed. p. 260, Fig. 260.

'Palace Style,' and it has lately been suggested that the lotus-palmette is itself a Mycenaean invention. This, however, is a very doubtful point.

8. Vases shaped like **XIX.** 9 and with a similar design were very common. On **XIX.** 10 the grasses are painted black and red alternately, and on two or three others the whole design was in red. They are made of very ordinary clay and bear conspicuous traces of the wheel.

All the painted vases of this type have a small hole pierced through the base, while the unpainted specimens with two exceptions are solid-bottomed. The object of the hole is not clear. We shall find other vases of different types perforated in the same manner (see pp. 133 ff.). One of these types is supposed to have been used exclusively for sacred libations (p. 137), but this explanation, even if it be correct, cannot be extended to all the other cases. It is improbable that the hole was made for the same purpose in every different type. In the case of drinking-vessels it may, perhaps, have been instituted for the encouragement of long draughts, as the hole would have to be stopped with the finger until the liquor was emptied off.

9. Several fragments on Pl. **XVIII.** Nos. 17, 22–25, are specimens of a small group which stands rather apart from the rest of the pottery described above. The clay and paint are very similar, but the ornamentation has a distinct character of its own; compared with the patterns on the other vases it is somewhat sparse and petty. The design on Fig. 90, a vase of a different class, is in much the same style. As regards form, the fragments in question are distinguished by the sharpness of their curves. No. 23 resembles **XI.** 14; 24 and 25 may be parts of small jugs. The whole group looks as if it belonged to a fabric that had not yet been drawn into the main current of the Mycenaean style.

§ 10.—*Pottery of the Early Mycenaean Period with Designs in Black and Red.*

The next large group of pottery to which we come is the 'black and red' class. Photography cannot, unfortunately, reproduce the contrast between the black and the red parts of the decoration, but by the aid of the drawings on Figs. 91–97 it may be imagined how bright an appearance the vases of this fabric present. The combination of the two colours had been already experimented upon in the geometric style. There we frequently find a band of black designs on a white ground in juxtaposition to a lustrous red surface, burnished or unburnished. It is noteworthy that in most vases of the present group the pigment is of the same distinct red or brown as that which we find in the geometric class just cited (cf. p. 107), and that the red part of the design is frequently burnished. A piece of pottery like **XX.** 2 does not differ much from a vase like **XXXIII.** 3 or a fragment like **XIII.** 11 either in outward appearance or in technique. There is a difference, however, in the principle of the decoration. In the old style the white band

with the black pattern was the encroaching element; in the new style it is the lustrous red band that is the intruder.

For some time the red pigment plays a subsidiary part. The design is drawn entirely in black; the red is used merely as a dividing band between two friezes or to fill up a vacant space outlined in black such as the body of a bird. But gradually it makes its way into the essential details of the design. A single example will serve to show how the mode changed; the design on Fig. 96 is in black and it is only the stamens of the flowers that are coloured red; on Fig. 97 the case is exactly reversed, the stamens are black and the rest of the flower is red.

Except for the burnished red bands with which they are decorated **XX.** 2–4 do not differ from the pottery of Section 9. The rest of the fragments and vases on Pls. **XX.** and **XXI.** may be conveniently treated as one group on the ground of style as well as of technique. The types to which these fragments belong are (so far as can be made out) as follows:—

Fig. 91.—Vase with Design in Black and Red[1] (1 : 4).

1. Jugs like **XXI.** 1. In some cases the mouth is pinched in on both sides. Cf. the geometric types p. 101.

2. Beaked jugs like **XIV.** 1.

3. Beaked jugs with short spout and broad flat handle (*e.g.* **XXI.** 12).

4. Amphorae like Fig. 94. Cf. **XI.** 5.

5. Basket-handled vases like Fig. 91. The handle is sometimes flat, sometimes round.

6. Vases with a globular body like 5, a projecting spout like that of **XIX.** 8, and a vertical handle behind.

7. Vases with a slight neck and flat rim (*e.g.* **XX.** 13, 16), probably to be restored with spout and handle.

8. Pithoi. Enough remains of the vessel of which **XXI.** 15 is a fragment to show that its general shape was that of the early geometric type with low belly and suspension handles (*e.g.* **VII.** 1).

As regards the decoration of this group the most obvious feature is the constant occurrence of large red discs, whether used as a mere ornament or as a representation of fruits and of birds' bodies. That the artist of this period was able to draw birds with perfect freedom is shown by such examples as **XVI.** 4 and 20, but the intrusion of decorative elements into naturalistic designs is thoroughly characteristic of Mycenaean vase-painting. Nor is this round-bodied type of bird peculiar to Melos. It appears to have been a widespread convention. We find it on the shaft-grave vases (F. and L., *Myk. Thongefässe*, Pl. X. 45) and on other pottery of the Mycenaean period

[1] Handle, spout, and part of body restored; whitish slip, baked red in places; body of bird and stem of tree filled-in in slightly lustrous reddish-brown; similar bird on the opposite side and similar tree below spout. (The line round rim is not continuous but interrupted, — — —).

(F. and L., *Myk. Vasen*, XVII. 116). The long-necked globular bird represented on **XXI.** 13–14 is a stock subject in the late Mycenaean style (*e.g.* **XXXII.** 18).

With the exception of Fig. 92 the birds on the present group of pottery are all of the same round-bodied type. Within the limits of this conventional scheme, however, certain differences are observable. Thus the heads of **XXI.** 5, 11, and 6 have been suggested, whether directly or, as is more likely, at second hand, by several different species of birds. **XXI.** 5 has a long curving beak; the head of **XXI.** 11 resembles that of a hawk; while a bird of cognate type on one of the shaft-tomb vases has the flat bill of a duck (F. and L., *Myk. Th.* Pl. IX, 44). The bird on the other side of **XXI.** 1 has two neck-feathers or side-locks with spiral ends exactly like those of the griffin in archaic Greek art (cf. also **XXI.** 11). The swallow on Fig. 92 is executed in a different tech-

FIG. 92.—FRAGMENT WITH FLYING SWALLOW[1] (1 : 1).

nique from the other birds on Pl. **XXI.**, although it evidently belongs to the same fabric; it is outlined in black and its body is filled in with white (scarcely distinguishable from the surrounding white slip), while there is also a row of three white spots across its tail.

As a glance will show, the Melian birds are closely akin to those on the shaft-tomb vases from Mycenae. This fondness for birds is one of the features of early Mycenaean vase-painting, and it is not unreasonable to trace it to the influence of Egyptian art. The monuments of Egypt swarm with life-like pictures of birds of all varieties, the forms and movements of which are often wonderfully well rendered. We have indeed several examples of direct imitation, such as the Phylakopi fragment, Fig. 114, and the inlaid sword-blades from Mycenae (Schuchhardt, Eng. ed. p. 266, Fig. 270). Such

[1] Brown clay; white slip; outlines of bird in matt black, interior filled in with white; band above in slightly lustrous brown. From a water-colour by Mr. Fyfe.

direct copies are an indication of how Egyptian influence had penetrated to the arts and crafts of the Archipelago, but they cannot be taken to represent the whole of the debt. It was not in the nature of Mycenaean art to remain long in the merely imitative stage. If it adopted models freely, it treated them still more freely. The subjects which it borrowed it usually transformed. It is very probable (though the connection in this case is less obvious) that the conventionalized birds of the present group of vases stand in somewhat the same relation to Egyptian paintings as the fantastic flowers in the Cretan 'Palace Style' to the lotus and the papyrus.

Fishes are also a favourite subject on this group of vases (*e.g.* **XXI.** 15).

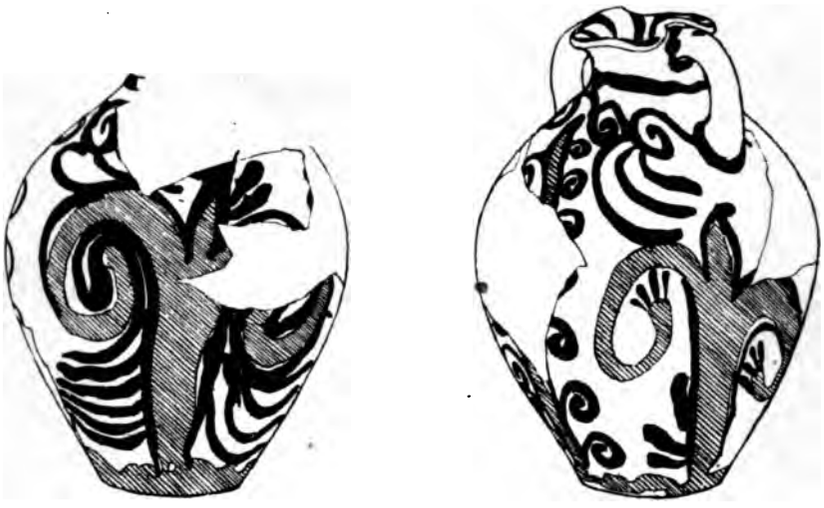
FIG. 93.—FRAGMENT OF LARGE VASE WITH BLACK AND RED DESIGN[1] (2 : 3).

On Fig. 93 we have a picture of a bird alighted on the back of a fish; a similar subject is found on Egyptian pottery as well as one or two other Mycenaean vases. **XXI.** 2 is perhaps the head of a griffin of the same type as that on the shaft-tomb vase (F. and L., *M. Th.* Pl. VIII. 43). One unfortunately shattered pot (**XX.** 15) has apparently had a representation of a human being, but the feet are all that remains of it.

The large vase **XXI.** 4 is encircled by a ring of fruit-trees, the red discs being used—with thorough appropriateness in this case—to represent the fruit. The small growth at the lower end of the disc entitles us to call it

[1] Light red clay; body of bird filled in with shining red.

the pomegranate, a fruit which appears on a few other Mycenaean objects from other places (Furtwängler, *Neue Denkmäler*, iii.; *Brit. Mus. Excavat. in Cyprus*, p. 14, Fig. 24). Entirely decorative are the disc patterns on XX. 14 and XXI. 15, although partly composed of vegetable motives, and the same is true of the rosettes on XX. 12–14. On many vases of this group the decoration is divided into two parts by vertical tree-patterns as on Fig. 91. The trees, or branches, are sometimes purely decorative, consisting of a stem with formal spirals on each side.[1] XX. 16, a favourite type, is somewhat nearer to nature. XX. 10 and XX. 15 are further examples of those half spiral, half vegetable designs in which Mycenaean art delights (cf. a Santorini frag-



(*a*) (*b*)

FIG. 94 (*a* and *b*).—AMPHORA WITH FLORAL DESIGN IN 'BLACK AND RED'[2] (1 : 3).

ment, F. and L., *M. V.* Pl. XII. 79). The row of crescents on XX. 9 ought also to be observed. This is a common pattern on archaic Greek pottery, being especially characteristic of the 'Fikeloura' fabric, and Dr. Boehlau has rightly derived it from Mycenaean art (*Aus Ion. Nekr.* p. 65), remarking at the same time that the only objection to the derivation was the fact that it had not yet been found on Mycenaean pottery. As a matter of fact it is extremely common on Cretan pottery of the early Mycenaean period, so that this difficulty disappears. It was from Crete no doubt that it came to Melos. Sometimes the crescents form a continuous row; sometimes as on XX. 9, and as is usually the case on Cretan vases, they are arranged in groups alternating with vacant spaces (cf. *J.H.S.* 1903, p. 177 ff. and Fig. 4).[3]

[1] Cf. the Cypriote-Mycenaean type, e.g. *Excavations in Cyprus*, Pl. XII.

[2] Rather heavy vessel with smooth, yellowish white surface; purplish red paint (represented above by shading); the tall-stemmed plant with numerous spiral branches on *b* recurs on the opposite side.

[3] The same pattern occurs as a vertical border in Egyptian decoration, *e.g.* on the painted doorways at Beni Hassan, but it is not likely that this form of it has anything to do with the Mycenaean designs.

The flowers or trees on Fig. 94 present a characteristic example of Mycenaean vase-decoration. They may be derived from the Egyptian type of lily with curled-over sepals and a round projection between them, or they may stand for palm-trees; but incongruous details are freely added, such as the tufts of leaves at the ends of the spirals (cf. the silphium plant on Cyrenaean coins), and no likeness remains to anything in nature.

§ 11.—*The Fishermen Vase.*

The object reproduced on Pl. **XXII.** is the most remarkable piece of painted earthenware found at Phylakopi. It is broken and rather badly burned round the top. The base, though much worn, appears to be nearly complete, for there are traces of a band of paint round the inside of it; from this it may be concluded that it was originally hollow underneath. The sides are very thick.

It is not clear to what kind of vessel this cylindrical object has belonged, for nothing quite analogous exists among Mycenaean finds. The suggestion has been made that it is part of a 'pedestal-vase' such as Fig. 110; these, however, are of an essentially different shape. Considering the thickness of the sides, the way it tapers towards the top, the moulding round the base and the fact that it is hollow underneath, it seems to me most probable that it is the pedestal of a lamp of the same type as Fig. 186, p. 210.

The main representation consists of a procession of four men walking to right and carrying a fish by the tail in each hand. Fig. *b* alone has but one fish and is using his disengaged hand to adjust his costume. Their only garment is the characteristic Mycenaean loin-cloth with a flap in front. That of *b* has a fairly distinct embroidered border, consisting of three plain lines and a row of dots, and a pattern can be distinguished also on that of *a*, both along the top and along the foot. Their hair is carefully dressed, hanging over their shoulders in long wavy locks. The head of *c*, which is much the best preserved of the four, has a formal curl on the temple like that which one or two of the Keftiu wear in the tomb of Rekhmara (Müller, *Asien u. Europa*, p. 340 ff.; Hall, *Oldest Civilization*, frontispiece). The absence of boots and ornaments is in keeping with their occupation. Although so small, the fishes which they carry have with one exception heads like dolphins (see especially the last fish in the row), reminding us of the Greek representation of Poseidon with a tiny dolphin in his hand. It has been suggested that the broad dotted band underneath stands for a pebbly path along which the fishermen are walking—a parallel to the Egyptian method of representing boats sailing along the top of a canal. Two little curves in the ground have been inserted beneath the feet of *a*, apparently because his legs were drawn too short. The spaces between their heads are filled in by groups of three pendant 'ivy leaves.'

The painting is executed in the 'black and red' style upon the usual white slip. The fishermen are outlined in black and their bodies are filled in with lustrous paint varying from red to brown; the two bands round the

base are also lustrous; all the rest of the design is in matt black. The work therefore belongs to the early Mycenaean school. The figures are drawn firmly and boldly according to the conventional scheme, shoulders to front and legs in profile. The slim proportions of the bodies are common to many

Fig. 95.—Best Preserved Figure from Fishermen Vase (4 : 5).

Mycenaean works, and particularly to the engraved gold rings of contemporary date. A later fragment of Mycenaean pottery from Tiryns (Schuch., Eng. ed. p. 132, Fig. 132) presents a curious exaggeration of the curve of *b*'s right leg. The most barbaric features of the drawing are the absence of hands and the monstrous eye in the middle of the cheek.

The subject is not unique in Mycenaean art. A gem in the British Museum (Cat. of Gems, 80; Perrot and Chipiez, vol. vi. p. 851, No. 4) represents a man, clad in a loin-cloth, carrying a fish by a short line attached to its gullet. But the processional scheme of the four figures on the pedestal suggests that the representation may have been borrowed from, or at least influenced by, a wall-painting, like the friezes for instance of which such fine fragments have lately been discovered at Cnossos. The best parallel to our fishermen is the procession of warriors on the well-known vase from Mycenae, and this, as has been proved by the discovery of a stele with a similar representation, is merely a reproduction of a stock scene.

§ 12.—*Pottery Decorated with Flowers in Black and Red.*

The charming group of vases collected on **XXIII.** 20 belongs as a whole to the 'black and red' class. Nos. 1 and 3, however, show the beginnings of a change in technique. Thus, while the flowers on the neck of **XXIII.** 1 are painted in the customary 'black and red' style, a different treatment is applied to those on the body of the vase: the lustrous pigment is used for the main part of the flower and the stamens are filled in in matt black. Further, the lustrous colour on some of the vases in the present group is different (in outward appearance at least if not in essence) from that of the preceding section (*v.* p. 107), being of a blackish brown hue and presenting no decided contrast to the matt black parts of the design.

As regards shape, the beaked jugs **XXIII.** 2 and 5 have a curved sharp-pointed spout, not unlike some Hissarlik vases (cf. also p. 103), while **XXIII.** 5 has in addition a swelling on the throat and a slight foot. The form of **XXIII.** 1, 3, 4[1] is related to a type of jug which is common in Hissarlik pottery and which is characterized by an upright spout of the same general shape as that of **XXIII.** 1, &c., but much narrower (**XXIV.** 11 an earlier, probably imported jug found at Phylakopi is much nearer to the Anatolian type). The magnificent fragment **XXIII.** 7 is part of a large vase with straight sides and flat base; a series of small holes is pierced round the top of the wall and another series round the foot, so that the vessel cannot have held any liquid substance.

The floral patterns on the vases of this group are of great interest. The flower which is the connecting bond between them all consists, in its most developed form, of three sharp-pointed petals enclosing a cluster of four stigmas and four stamens. The stigmas, however, are frequently omitted.

This flower is not found on any of the Mycenaean vases hitherto published. One very like it, however, occurs on a Cretan pictographic gem (Evans, *Cret. Pict.* p. 312, No. 56), and the recent discoveries of Mr. Evans have shown that a similar type is one of the commonest symbols in the pictographic syllabary and is also characteristic of the early Mycenaean

[1] Common in Crete in the early Mycenaean period. For the Hissarlik type cf. Schliemann, *Ilios*, Eng. ed. p. 551, no. 1162.

wall-paintings at Cnossos. Mr. Evans has pointed out that the Cretan flower must be the crocus, as is clearly indicated by the drooping stigmas of the pictographic symbol. The Phylakopi type is certainly related to the Cretan type, but whether the artist who painted these flowers on the Phylakopi vases intended them to represent the crocus or any other individual flower is more than doubtful. From such details as the wavy stalks of Fig. 97 and **XXIII.** 7 one can see how decorative the treatment is. What we may say with certainty is that they are not a realistic copy of any one kind of plant In the opinion of Mr. Newberry, who is an accomplished botanist as

FIG. 96.—JUG WITH FLORAL DESIGN IN BLACK AND RED[1] (1 : 3).

well as archaeologist, the flower to which they bear most resemblance is the fritillary.

Dr. Riegl, in his *Stilfragen* (published in 1893), has attempted to show that most of the floral forms in Mycenaean art are ultimately derived from Egyptian representations of the lotus. Though it must be admitted that his treatment of the Egyptian forms is based on an error and that his discussion of the Mycenaean forms needs to be revised in the light of recent discovery, yet there seems to me to be a substratum of abiding truth in what he says as to the derivation of certain Mycenaean representations from Egyptian types. It will be observed that the skeleton, so to say, of our

[1] Restored on the analogy of Pl. **XXIII.** 5; smooth, reddish yellow surface. (The two preserved portions really belong to different sides of the vase but have been placed in juxtaposition for the sake of effect.)

flower consists of a three-pointed perianth remarkably like that of the blue lotus (*Nymphaea caerulea*). The same sort of resemblance exists also between the type represented by **XXIV.** 9 and the Egyptian lily. Considering the intercourse that existed between the two countries, it is difficult to believe that, whatever they subsequently came to represent, such forms as these were created in complete independence of Egyptian influence. There is little doubt that the Mycenaeans were acquainted with the Egyptian types, and in fact they sometimes copied them directly; the papyrus plants on Fig. 114 furnish a sufficiently good instance from close at hand.

The above type with the three-pointed perianth is particularly conspicuous on several complicated spiral patterns which correspond in their entirety

FIG. 97.—JUG WITH FLORAL DECORATION IN BLACK AND RED[1] (1 : 3).

with Egyptian patterns, as has been pointed out by Riegl and Petrie; and it is argued that the floral form must have been borrowed from Egypt along with the rest of the design. Unfortunately it cannot yet be said with certainty whether these patterns are of Egyptian or Mycenaean origin, so that any argument based on them is as yet premature. It is probable too that the floral form was current in Mycenaean art before the advent of the above-mentioned patterns. But, as it happens, the designs on the group of vases with which we are at present dealing present a less ambiguous proof of kinship with Egyptian designs. In one example (Fig. 97) the flowers are arranged in a characteristically Egyptian scheme; **XXIII.** 5 and 7 are likewise favourite arrangements in Egyptian decoration; and **XXIII.** 2 is

[1] Spout, handle, and most of body are represented in the above drawing as restored (the spout somewhat freely); thin, light-coloured clay with marks of rapid turning; whitish slip; design in matt black and lustrous brown as shown.

Fig. 98.
Top of Small Jug with Floral Design[1] (3 : 8).

probably derived from the same scheme as Fig. 96. The grouping of the flowers being admittedly Egyptian makes it more than ever probable that the resemblance which the flowers themselves bear to Egyptian types is more than a coincidence.

The small fragment reproduced as Fig. 98 may find a place here as it is closely akin to **XXIII.** 2. The circular objects are evidently flowers, and the scheme of the design is the same as on **XXIII.** 2 and 5. It may be regarded as an attempt to show the flower in full face or as seen from above, and this view is all the more probable as we find a very similar design on the Egyptian monuments.[2]

Before proceeding to the next main class I may mention certain vases and fragments which, like some of the above group, stand midway between the 'black and red' and the 'red and black' techniques.

The vase figured on **XXIV.** 1 has four handles (two attached horizontally and two small vertical ones), a high hollow foot and a sieve-bottom.[3] Several other fragments could be identified as belonging to the same type of vessel.

The cross-hatched band round the foot of **XXIV.** 1 is a pattern which even in the later style is usually executed in matt black. The pattern

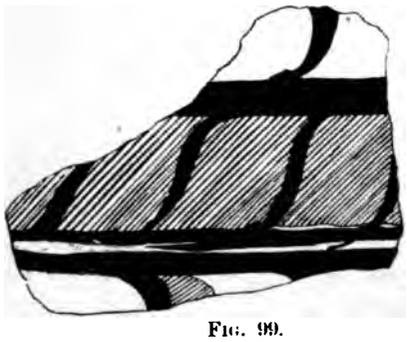


Fig. 99.

Fig. 100.

Fragments with Designs in Black and Red (2 : 3).

round the body is a common and somewhat puzzling motive on the Phylakopi pottery. A few other specimens of it with some slight variations in the details are shown on Pl. **XXIV.** 1–3 and Fig. 108, p. 136. The simpler forms on Figs. 99, 100 look like the connecting lines of a frieze of spirals (such

[1] Reddish clay: matt black paint. Of same type as **XXIII.** 2, but without red accessories.

[2] Wilkinson, *Popular Account*, II, p. 36, Fig. 365 (an example from the tomb of Ramses III). Cf. also Evans, *Cret. Pict.* nos. 52–53.

[3] The type is probably Cretan. See *J.H.S.* 1902, p. 335, and Pl. XII, no. 2.

as **XXIII.** 7), the spirals themselves being omitted.[1] Compare the evolution of the 'running hound' pattern out of a chain of spiral links.

XXIV. 4 and 5, are other fragments which belong to the same intermediate stage. The pattern on **XXIV.** 5 seems to be mainly composed of a 'running hound' scheme, and is completed by a floral motive similar to that of **XXIV.** 4. Of special interest is the scheme of **XXIV.** 4 (repeated on another fragment, and probably to be restored on **XXVI.** 19 also.)[2] It consists of a row of flowers, head downward in this case, connected by formal arcs. This was a favourite scheme, under various forms, in Egyptian work of the New Empire (*e.g.* Petrie, *Decorative Art*, pp. 43, 65), and its later developments in Greece and Asia are well-known. The Phylakopi pattern, indeed, is very similar to some of the designs on the bronze bowls from Nineveh.

§ 13.—*The Later Local Pottery of the Mycenaean Period.*

The pottery to be described in the present section comprises (1) what I have called the 'red and black' class (*i.e.* vases which have the main part of the design painted in lustrous colour, and some details added in matt black), and (2) vases with entirely lustrous decoration. The black accessories came gradually to be dropped and there is no break between the two groups. They may therefore be treated as one. At the same time I should like to emphasize the fact that the following vases are much less homogeneous than those of Sects. 10 and 12, and that though as a whole the latter are earlier, yet this division into earlier and later is not to be pressed too strictly in individual cases: I would not undertake to say, for instance, that **XXVII.** 2 or **XXVII.** 4 was not made as early as (or even earlier than) **XXIII.** 1 or **XVI.** 6. I have thought it better, however, not to attempt more subdivision at the present time when the history of Mycenaean decoration is only beginning to become clear and definite.

1. **XXV.** 1 represents one of the most characteristic vase-forms of the early Mycenaean period. The parallels from Crete and Santorini are well-known to archaeologists (*e.g.* Dumont et Chaplain, Pl. II., *J.H.S.* 1901, p. 87. C.) and the type is found also in the mature Mycenaean style, though it does not appear in F. and L.'s *Formentafel*. The earliest type has no moulded rim round the opening, and looks as if the top of the vase had been sliced clean off. **XXV.** 1 has a broad flat rim, and this also is a very common variety. **XXV.** 2 has a small rounded rim. In **XXV.** 3 we see the beginning of a neck and **XXV.** 9 shows a fuller development of this variation. **XXV.** 9, like several other examples, is further distinguished by a small vertical handle at the back in addition to the two usual side-handles. One large fragment has a straight, horizontally fluted neck, while another has a slight moulding round the neck like a collar. The lower part of the vessel also

[1] For the corner ornaments cf. **XVII.** 10 and **XXIV.** 5.

[2] See also **XXIV.** 10.

undergoes certain changes, varying from the squat, flat-bottomed type represented by **XXV.** 1 to **XXV.** 2 with its refined and elongated base. The same elongation of the base is conspicuous on several other Mycenaean types, and is indeed a feature of the period. On such vases as **XXV.** 9 and also on those of the following type, the neck is continued round the inner end of the spout and an outlet is pierced through it.

2. Along with these vases may be grouped a common type of jug represented by **XXV.** 6, and by the two splendid specimens on **XXV.** 4–5. Compare the Abbot vase (Perrot et Chipiez, p. 869, Fig. 436) and also a vase from Attica (F. and L., *Myk. Vasen*, xix, 136), both of which are of comparatively early style. A large jug from Cnossos which closely resembles **XXV.** 4-5 both in shape and in decoration is an indication that the home of this type as of so many others is to be sought in Crete.

The majority of the vases which come under these two types are decorated with a broad frieze of spirals. There is usually a rosette of dots in the centre of each spiral. The triangular interstices between each pair of spirals, one above and one below, are filled up in various ways, some of which deserve a few remarks. The simplest method of filling up this triangular space is to insert a triangular spot, as is done for instance on **XXV.** 5. This triangular mark, however, is usually attached to the outer line of the spiral, and thus we get that favourite scheme of which **XVII.** 15 is an excellent instance and of which a debased form is very frequent on later fabrics. Another pattern to which the triangular adjunct gave rise may be seen on **XXXI.** 22 and, what is quite in keeping with the character of Aegean art, we find this form used to represent a growing flower on another Mycenaean fragment of good style (F. and L. *M.V.*, xxv. 189c). A still more common device for filling in the interstices consists of one or more (usually two) triangular dots attached to the end of a wavy stalk—another quasi-vegetable motive; it will be observed that the stamens on the latest of the 'flower vases,' Fig. 97, are of this ornamental form. What is apparently the same design occurs on one of Mr. Evans's pictographic gems (*Cretan Pict.* p. 297, Fig. 36a). The scheme of **XXVIII.** 2 is akin to this, but is certainly a great improvement on it; here the 'ivy-leaves' grow from flexible stalks and creep into all the corners in a natural and charming manner.[1] Indeed this design is even better than the well-known Egyptian and Mycenaean scheme in which the similar interstices are filled up by lotus flowers; the lotus flowers fill the spaces admirably, but not with the gracefulness of natural growth. It should be noted that these naturalistic sprays are executed in lustrous paint, like the spirals which they accompany, while the other accessories of which mention has been made are painted in matt black.

We find also a few examples of more complicated spiral systems on the Phylakopi pottery. The large fragment **XXIX.** 13 may be cited here, although

[1] Mr. Hopkinson restores this design as a row of concentric circles (*J.H.S.* 1902, p. 66, Fig. 12), but it is really a frieze of spirals of the usual type. I do not think concentric circles appear at all on the pottery of this period.

it does not belong to the type of vase with which we are at present engaged. The design in this case consists of two parallel rows of spirals and the interstices between the two rows are filled up by fans of stamens. The classical Egyptian example of this type of design is the ceiling of Neferhotep (*v.* Petrie, *Decorative Art*, p. 30). On the other Mycenaean patterns that have been compared with Egyptian ceiling patterns the inserted flower is of the three-sepal form like one or other of the Egyptian types (*e.g.* Tiryns fresco, Schliemann, *Tiryns*, Pl. V, and Orchomenos ceiling, Schuchhardt, p. 302). The fan of stamens on **XXIX.** 13 is a variation on this form and was probably suggested by another conventional flower, the lily with two spiral petals and a group of stamens between (*e.g.* **XXIV.** 9). Fig. 101 is part of a jug like **XXV.** 6 and bears a design derived from the scheme represented by **XXIX.** 13. The spirals are arranged in a way which anticipates a large class of archaic Greek patterns, and the floral part of the design, instead of being a mere complement of the spiral part, is now of equal prominence. The flower is lotiform with stamens between the petals. Both **XXIX.** 13 and Fig. 101 are painted in the later style without matt black accessories. A few other fragments were found with designs of a similar kind.

FIG. 101.—JUG OF LATER MELIAN FABRIC WITH FLORAL DESIGN (Restored)[1] (1 : 3).

Another very common feature of the present class of vases is the double row of leaves or branch pattern. Sometimes the two rows are separated by a narrow line or stalk, but as a rule this is omitted (*e.g.* **XXV.** 4). Sometimes again we find a single row of leaves or two rows separated artificially, as for instance by a line of dots (*e.g.* **XXVI.** 12). In spite of these variations there is no doubt that the pattern originally represented a branch with a row of leaves on each side. We have already met it, in a more naturalistic form, on the 'black and red' vases with the birds.

Through the omission of the horizontal stalk the double row of round-tipped leaves develops into a single row of 'ivy-leaves,' *e.g.* **XXIX.** 2.[2] In some cases it is difficult to tell which of the two patterns is intended. On **XXVIII.** 11 we have an interesting attempt to improve the pattern by attaching stalks to the leaves and converting it into a row of growing plants. On **XXVIII.** 1 the leaves have short stalks, which however are mere unconnected appendages like those of the lilies on the Mycenaean sword (Perrot et Chipiez, xix, 3).

[1] Light red clay and surface; lustrous red paint; marks of horizontal smoothing.

[2] I am not, of course, suggesting that this is the origin of the ivy leaf as an individual form; we have seen it represented in a state of natural growth on the pottery of the preceding fabrics; but this is obviously the origin of the 'ivy-leaf' frieze as rendered on **XXIX.** 2 and **XXVIII.** 11, &c.

On Fig. 102, however, the stalks seem to be connected with each other somewhat after the scheme of Schuchhardt, p. 270, Fig 277. The wavy ivy spray with leaves springing alternately from either side, which according to Riegl is the main achievement of Mycenaean decorative art, was neither attained to nor copied on the native pottery of Melos, but all these experiments show that the spirit of progress was as active here as elsewhere. Let me note again in conclusion that all the ivy-leaf friezes spoken of above belong to the latest phase of the Melian school, that which dispenses with accessories in matt black.

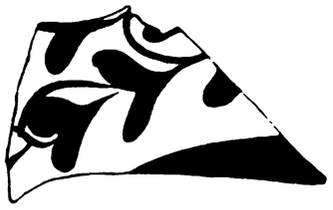


FIG. 102.—FRAGMENT WITH IVY-LEAF PATTERN[1] (2 : 3).

A few other 'ivy-leaf' patterns are shown on **XXVIII.** 13–15. The formal plant on **XXVIII.** 4 and 5, which resembles the ivy more than any other type, is, like the flower derived from **XXXI.** 22, a spiral motive converted into a floral.

3. **XXVII.** 6 is one of the rarer forms; or at least few fragments among the finds could be recognized as belonging to the same type. It has a curving handle like those of the jugs on **XXVII.** 8–9, and a small ledge-handle on each side; the spout is not added separately but merely pinched out. Part of a similar vase was decorated with branching blades of grass (in lustrous red), the same design as occurs on **XIX.** 10.

4. The fragments collected on Pl. **XXVI.** belong to large cups or bowls of varying shades of shape. **XXVI.** 5 and 6 are examples of a very common form; 1, 3, 4 represent a superior type with a distinct neck and a more elegant outline; while another and probably later variety may be restored from such fragments as **XXVI.** 21. They have all a flat handle as shown on **XXVI.** 2–6. A circular stud of clay is frequently attached to the handle just where it joins the rim, in imitation of the nail-head on a metal vase. In a few cases the rim is very slightly pinched, so as to suggest, rather than actually form, a spout. Some of the best of these vases, *e.g.* **XXVI.** 1, have a small hole pierced through the bottom, the intention of which is by no means clear (cf. p. 118).

The vases of the present class have frequently a simple pattern painted on the exterior of the base. The pattern sometimes consists of four (or three) sets of semi-circles back to back (*e.g.* **XXIX.** 11 and 12[2]; cf. the corresponding *angular* pattern in the geometric style **VIII.** 3); sometimes it is a spiral, **XXVI.** 9; but the most common device of all is a broad cross as on **XXVI.** 8. Other base-patterns are given on Pl. **XXVI.** 7–11. For the body of the vase a broad spiral frieze, like those on the jugs described above, is a very common ornament. The large returning spiral on **XXVI.** 1 ought to be noticed for the sake of the technique; the background is painted-in in black against which the spiral pattern stands out in the light yellow ground-colour of the clay slip. A band of black dots, as on **XXVI.** 9, &c., is a frequent accompani-

[1] Light-coloured surface; lustrous brown-black paint.

[2] Cf. the Terramare vases from Castione in the Parma Museum.

ment to the spiral frieze, and sometimes the spirals themselves are fringed by a border of them. Rows of leaves, as on **XXVI.** 6 and wavy lines, as on **XXVI.** 5, are also favourite designs. The latter is of course a rapid rendering, done on the wheel, of the earlier zigzag, and sometimes we find the wavy line bordered by black dots in the same way as its prototype (*e.g.* **XXV.** 5). The fragments 14—18, 21—24, 26, 27 on Pl. **XXVI.** form a group by themselves. They are of thin, somewhat glossy ware. Wriggly lines, debased or curvilinear swastikas, and a plentiful use of small dots are some of the main features of their decoration. Designs of similar style occur also on fragments of larger ware (*e.g.* **XXIX.** 9). The small studs on **XXVI.** 21 are further reminiscences of metal work.

5. The cups on Pl. **XXV.** (8, 10, 12) are modelled on a metal type of which many specimens were found in the shaft-tombs at Mycenae (*e.g.* Schuch. p. 239).[1] We found a good many unpainted cups of this shape made of blackened ware, probably in imitation of metal (*e.g.* **XXXVI.** 4). Besides the linear patterns exemplified on the vases reproduced, we find zones of leaves like those on **XXVI.** 6 and one or two fragments were decorated with rows of ivy-leaves like **XXIX.** 2. The beautiful specimen **XXV.** 12 belongs to the earlier style, the pattern being painted almost entirely in matt black.

6. Cups without handles, varying in size and shape from the small ordinary kind represented by **XXXVI.** 3 to the large kalathos-like type of which **XXVII.** 11 is an advanced specimen, were extremely common but very seldom had any decoration. Fig. 103 is the prettiest example of the ordinary kind, while Figs. 104, 105 are noticeable as having a design on the inside like certain Kamáres cups from Eastern Crete. **XXV.** 11 has a flat rim and has probably had little handles like those of **XXXVI.** 16. The flat rim is very common on the unpainted cups (*e.g.* **XXXVI.** 9, 13), and the handles may possibly be derived from handles in the form of animals' heads.[2] The pattern on **XXVII.** 11, which is also characteristic of Cretan pottery, sometimes occurs in the form of **XXIX.** 5, the irregular thickness of the vertical lines being apparently intentional.

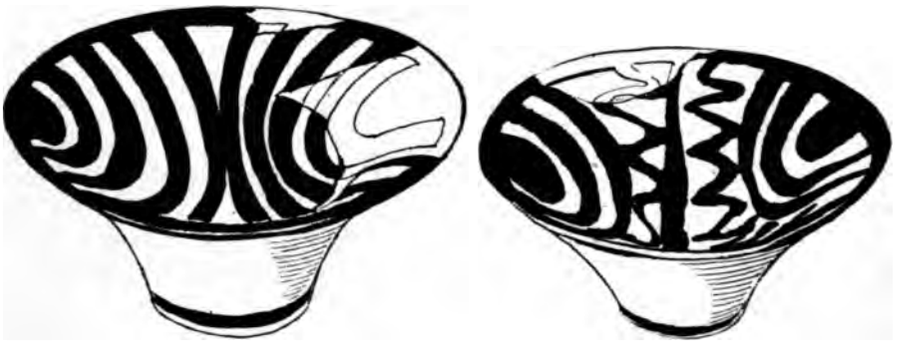
Fig. 103.—Cup with Rosette Pattern in Red and Black (2 : 3).

7. **XXVII.** 10 like Fig. 103 is a specimen of a type that is almost always without decoration. It is merely a small flat saucer. Two unpainted vases of similar form are shown on Pl. **XXXVI.** 1—2. **XXVII.** 10 has a flat trefoil projection on each side of the rim by way of handles: a better preserved example on a fragment of plain ware is shaped thus .

[1] With the ornamentation of this gold cup compare the pattern on a fragment of Phylakopi ware, **XXVIII.** 6.

[2] For an early Egyptian example see Petrie, *Kahun, Gurob and Hawara*, Pl. viii, 3.

8. Another vase that bears evidence of being partly derived from a metal prototype is the large goblet figured on Pl. **XXVII.** 3. It has a broad flat rim with a crinkled outer edge, and a high flat handle with three imitation



FIGS. 104 and 105.—CUPS WITH PATTERNS INSIDE[1] (1 : 3).

nail-heads where it joins the rim. Compare the handle and rim of a silver cup from Mycenae, reproduced in Perrot et Chipiez vi, p. 965, Fig. 533. A large fragment of the same general type had a spiral pattern round the outside and a sharply drawn-in neck as shown in Fig. 106.

9. A type of which we found many fragments but no whole specimen was a high funnel-shaped vase decreasing in diameter from the base upwards and provided with sham suspension-handles. A complete example from Santorini is figured in Dumont and Chaplain Pl. I. No. 5. The type is derived from the early pyxides with incised ornamentation and sloping sides (*e.g.* Pl. **IV.** 1). The Santorini vase has a small hole pierced in the bottom, and the Phylakopi fragments show the same peculiarity (Dum. et Chap. p. 33). Their decoration contained no new feature. One fragment had a spiral design in white upon a coat of brown.

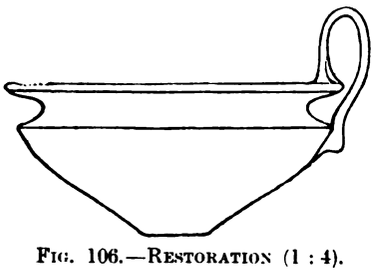


FIG. 106.—RESTORATION (1 : 4).

10. Two local examples of a well-known Mycenaean type of vessel are reproduced on Pl. **XXVII.** 5, 7. These vessels have been generally regarded as 'fillers' for transferring liquid to a narrow-necked recipient. Mr. Evans has lately suggested that they correspond to the Greek 'rhyton' and may have been used for drinking from, through the hole in the bottom (*B. S. Ann.* vi, p. 30). Both explanations are plausible, but a circumstance mentioned by Mr. Evans in the same paragraph, that only the stone specimens found at Cnossos are perforated through the lower end, while the terracotta vessels

[1] Ordinary wheel-made ware of later period with designs in lustrous paint.

of the same type are solid-bottomed, is difficult to reconcile with either view.[1] All the Phylakopi specimens have the usual hole below. **XXVII.** 5 has been a two-handled vase; **XXVII.** 7 has only one handle. The ornamentation of **XXVII.** 5 is of the same character as that of a group of vases mentioned on p. 133. The patterns on the other vases and fragments of this type that were picked up, consisted mainly of zones of spirals, rows of leaves and zigzag vertical lines as on **XXVII.** 11.

FIG. 107 (1 : 3).

11. Like the above vessels, the vase which is here reproduced (Fig. 107) has a pointed and perforated bottom, but its neck is so narrow that it can scarcely have been used as a 'filler.' The shape of its body is in itself suggestive of a shell, and the design, which consists of a broad red band running round it spirally, may well have been intended to enhance the suggestion.[2] A vase of the same form was found in one of the shaft-tombs at Mycenae (F. and L., *Myk. Vas.* xliv, 23).

12. The little vase reproduced in Fig. 108, the only entire specimen of a not uncommon type, is evidently related to the duck-vases discussed in Sect. 4. The type is also represented among the finds from the shaft-graves (F. and L., *M. Thon.* Pl. x, 47). It is the prototype of the Hellenic *askos* (cf. p. 90). The form occurs also in the mature Mycenaean pottery of F. and L.'s third style (Fig. 109), but it is rare there, and seems to have been superseded by the pseudamphora. The pseudamphora itself indeed is probably derived from a combination of this type with another.

13. Only a few fragments of *local* pseudamphorae were found at Phylakopi. It would have been interesting to observe whether the decoration on what was certainly a late imported type contained any new elements, but the fragments were small and uninstructive. One of them had belonged to a vessel of considerable size, another to quite a small pot. They had one important peculiarity in common, which was that the false neck was flanked by *three* handles instead of the normal two. As vessels with necks flanked by three handles are especially characteristic of Cretan pottery (*e.g. B.S.A.* vi., p. 80), it may well be that the type originated in Crete. An amphora from Cnossos with a spout rising from the shoulder has been pointed out as a possible prototype of the pseudamphora (*B.S.A.* vi., p. 17), and certainly the resemblance of the upper part is very suggestive. I cannot but think however that the earlier *askoi*, such as Fig. 74 and Fig. 108, were the main element in the evolution of the 'bügelkanne.'

[1] Some of the clay specimens from Cnossos are also perforated [note of Mr. Evans, 1903.]

[2] Shells of this form appear to have been used in Mycenaean religion (*J.H.S.* 1901, p. 142) and were certainly copied in Mycenaean art, as is shown by the alabaster specimens found in Crete.

14. The thick-sided amphora **XXVII. 2** is another of those elongated forms that are so common in the Mycenaean period. The type is characteristic of the Kamáres fabric (*J.H.S.* 1901, pp. 86, 87). Another specimen from Phylakopi with an even narrower shoulder than **XXVII. 2** bears the same design painted in white upon the brown clay ground. Both of them have the mouth pinched in on each side where the handles are attached.

15. A not uncommon type of jug had a sort of collar round the neck (not illustrated on our plates), and the same shape is found with a high S-shaped handle like that of **XXVII. 8**. **XXVII. 8** and 9 are distinguished by the remarkable form of the mouth, one spreading rim being stuck upon the top of another.[1] Although it is not certain whether the specimens above cited are Melian, there are other fragments of the same types that are certainly of local fabric. The finest embodiment of the present type (without the double

Fig. 108.[2] (1 : 3).

Fig. 109.[3] (1 : 3).

Fig. 108.—Small *askos* of Native Melian Fabric.
Fig. 109.—Small *askos* of Imported Mycenaean Fabric.

mouthpiece), is the beautiful Marseilles vase (*Arch. Anzeiger*, 1893, p. 9). The S-shaped handles occur on gold and silver jugs from the shaft-graves at Mycenae: but the metal handles are flat. Indeed the Phylakopi specimens with their round handles and rounded collars have more resemblance to the stone vessels of this shape, such as have been discovered at Cnossos.

16. Another type of jug that is common in the later Melian style is of much the same form as the vases from the shaft-tombs with pictures of birds (F. and L. *M. Th.* Pl. IX.). In one or two cases a strainer was found inside the neck. Some had the neck fluted horizontally while others had a small pointed stud or horn on each side of it. No whole specimen was recovered.

17. The three-handled jug figured on Pl. **XXVII. 4** is of Melian fabric, but the type is doubtless derived from Crete, for the form is a very common one

[1] I am informed that similar vases have lately been discovered by Miss Boyd at Gournia in Crete.

[2] Light reddish clay; whitish slip; lustrous brown paint.

[3] Red clay; whitish slip; lustrous black paint. Mature Mycenaean technique.

in Kamáres ware, while **XXVII.** 4 is the only local example that came to light. There is a remarkable peculiarity about this vase: between each pair of handles stands an upright projection, pointed at the top, flat, and roughly fluted down the outside. As the vase-form is derived from Crete, it is probable that this plastic ornament, which is not found on any other Melian vessel, was imported at the same time. Plastic decoration is known, indeed, to have been used on Kamáres pottery (*J.H.S.* 1901, p. 84, Fig. 7), though I am not aware of any parallel to the present example.

18. A great many fragments of small ladles were found, with a painted pattern on the inside. **XXV.** 7 illustrates the usual shape.[1] One specimen instead of the stem of **XXV.** 7 had a vertical handle like that of an ordinary vase. The favourite design was that which is exemplified by Fig. 104. These ladles are not to be confused with the small lamps mentioned on p. 210.

19. One or two native-made fragments of this period evidently belonged to ring-vases, *i.e.* vases made in the form of a circular tube on which is erected a ring of miniature vessels. This fantastic vase-form occurs in early Cypriote and Trojan pottery and was probably imported thence into the Cyclades. We found, indeed, at Phylakopi a fragment of a ring-vase in the early burnished ware, and **IV.** 9 is evidently derived from the same source.

20. **XXVII.** 12 may be descended from an earlier type represented by **XI.** 16 in the same way as **XXXIII.** 20 can be traced back to **XXXIII.** 3. Some other pieces of similar vessels were found, all with the same pattern. The spout is not bridged over by the rim as in the case of **XXV.** 1, etc. The handle is a horizontal loop-handle.

21. The curious vessel figured on page 138 consists of a funnel-shaped stem with wide-spreading top; it is closed in above by a convex protuberance, so that it might be described as a shallow bowl with a large central boss, erected on a pedestal; a hole is pierced through this central boss and another hole is pierced through the flat base below. Thus a liquid poured into the bowl would disappear through the upper hole and escape through the foot of the vessel. There is a small ledge-handle on each side of the bowl.

Strange as its shape is, this kind of vessel was far from uncommon. Several examples more or less fragmentary were found at F 2, 12 in the western pillar-chamber, and pieces of others were obtained from many different parts of the site. The ornamentation of the inside of the bowl consisted sometimes of a rosette as on Fig. 110; sometimes the central boss was surrounded by a ring of returning spirals as on **XXVII.** 1, and in a good many cases the design was of the same type as **XXIX.** 12. The dot-covered boss of Fig. 110, in accordance with the surrounding design, seems specially intended to look like the centre of a flower.

From the fact that so many of these utensils were found in the pillar-chamber it has been conjectured that they were meant to serve a religious

[1] Cf. the specimens from the Dictaean cave, *B.S.A.* vi., p. 105, Fig. 35.

purpose. Further, in the Dictaean cave in Crete Mr. Hogarth found many fragments of 'Kamáres' vessels of similar though not identical shape mixed up with small offering-tables of stone and evidently part of the sacrificial paraphernalia (*B.S.A.* vi. p. 98; see also p. 76 and *J.H.S.* 1901, pp. 87, 88). If this explanation of the Phylakopi vessels be accepted it will still remain doubtful for what purpose exactly they can have been intended. They may, perhaps, have been used in making libations, the lower part being fixed into the ground so that the liquid would disappear through it without leaving much trace.

22. The local pithoi of the later period are represented by **XXXIV.**

FIG. 110.—PEDESTAL-VASE.[1]

12–14. The contrast between their general shape and that of the earlier pithoi has been pointed out on p. 97. As a rule they have three handles round the shoulder and two a little above the base, an arrangement which recalls certain of the Keftiu vases. They are encircled by raised bands, sometimes thumb-marked (*e.g.* **XXXIV.** 13 round the neck), but more frequently by notched curving strokes, so as to look almost like a row of overlapping disks. For the sake of comparison some of the earlier and later types of relief ornamentation are arranged together on Pl. **XXXIV.** We found also a

[1] Height ·155 mill., diam. ·20 cm. Reddish clay; smaller dots and lines down middle of petals are in matt black, rest of design in red. From a water-colour by Mr. Fyfe.

great many fragments of imported pithoi, most of which seemed to me to be of Cretan ware.

23. **XXIX.** 1 is a large vessel of a different shape, somewhat like the earlier **XXXIV.** 4. The spout, as is frequently the case on these great vessels, is a mere sham without any communication with the interior of the vase.

Of the remaining vases of this period [1] **XXIX.** 3 has been already pointed out as a survival of the panelled cups of sect. 9. Pl. **XXXVI.** contains a selection from the plain ware of later date and a few other specimens will be found on Pl. **XXXV.** No. 9 on the latter is interesting as a descendant of the small beaked jugs and No. 6 represents a still further stage of development. The ordinary cups of which **XXXVI.** 3 is the sole representative among our illustrations were often found stored in little piles and neatly adjusted one above another upside down : similar stores of them have also been discovered on Cretan sites. One specimen of the same class had been pinched in on three sides (after being turned on the wheel) so as to present an undulating circumference. A good many of these plain vases, such as **XXXVI.** 6, have a strip of paint round the rim. No. 11 on the same plate is akin to the vases on Pl. **XXXIII.** and Nos. 14, 15 are worth remarking for the unusual shape of their handles. Fig. 111 reproduces a small vase of peculiar shape with more resemblance to a stone type than to a terracotta one [2] : like so many other vessels of the present period it has a hole pierced through its base. For a few other vase-forms of the later Phylakopi fabrics see sects. 15 and 18.

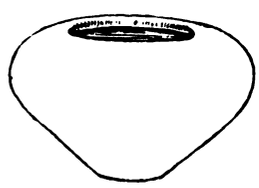


Fig. 111 (1 : 3).

§ 14.—*Baths or Washing-Troughs and other similar Vessels.*

The large vessel reproduced on Pl. **XXX.** 3 and also as Fig. 112 is presumably a bath. When discovered it was intact, but on the removal of the surrounding soil it fell to pieces and so had to be reconstructed in Athens out of a sackful of fragments. To judge by the numerous relics of similar vessels that were found upon the site, the inhabitants of Phylakopi must have closely resembled the heroes of Homer in the matter of cleanliness. At Tiryns, besides the excellent bathroom with its monolithic pavement, the German excavators discovered a large fragment of a terracotta bath with spiral decoration (see Schliemann, *Tiryns*, Pl. XXIV. *d*, *e*, where a restoration is given), and a similar fragment is said to have been found in Hissarlik

[1] Dümmler in his description of Phylakopi mentions, among the various objects which he saw lying about the tombs and the settlement, fragments of vases of a peculiar type which is met with in Santorini (Dumont et Chaplain, Pl. 1, no. 2; there is a stray specimen in Bologna Museum). But, strange to say, the excavations did not yield any fragments of this class, or else, if such were found, they were so inconspicuous as to have escaped our notice.

[2] A very common form in Crete both in stone and in earthenware.

(Dörpfeld, *Troja*, p. 101). As Mr. Evans has pointed out, some of the finely painted earthenware coffins that are characteristic of Crete in the Mycenaean age are made in the form of baths; they are of about the same size as the Phylakopi type but have a much larger base. An amusing little terracotta from Cyprus, which has been lately published by M. Pottier (*B.C.H.* 1900,

FIG. 112.—BATH, WITH SECTION SHOWING INTERIOR DECORATION (1 : 10).

p. 515), represents a male figure seated in a large bath and being washed by a female attendant; the style of the workmanship shows that it belongs to a very early period.

The Phylakopi type is of elliptical shape with a small base and sloping

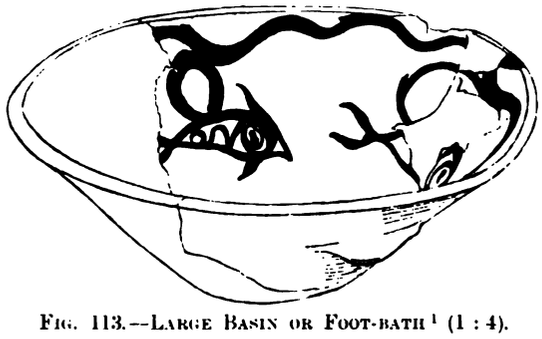


FIG. 113.—LARGE BASIN OR FOOT-BATH[1] (1 : 4).

sides. Perhaps the bather sate inside it on his heels and had water poured over him by an attendant (cf. the representations on Greek vases): that at least is the use for which the shape is best adapted. While the inside of the bath is richly ornamented in lustrous red, the outside is left plain. There is a ledge-handle at each side to raise it by.

[1] Elliptical shape; ledge-handle on each side; yellowish clay and surface, with design in matt black. Largely restored.

Pl. **XXX.** 2 is shaped like Fig. 112 but is a good deal smaller and may therefore be intended for a child's bath. Possibly also both this type and the larger one may have served as clothes-tubs. **XXX.** 2 has not got the broad rim of **XXX.** 3 and has loop-handles instead of ledge-handles.

We have several examples also of a similarly shaped vessel of still smaller size which may have been used as a hand-basin or foot-bath. Fig. 113 is appropriately decorated with a row of fishes swimming round the inside. **XXX.** 1 is a fine fragment of the same class. There is also a whole specimen from Santorini (Dumont et Chapl., Pl. 1). It should be noted that Fig. 113 and

FIG. 114.—FRAGMENT FROM A BATH OR OTHER LARGE VESSEL, WITH DESIGN IN BLACK AND RED (2 : 3).

XXX. 1 are both painted in matt black, as indeed are most of the fragments of this type that we found; **XXX.** 9 is an exception to which I shall return.

The great majority of the bath-fragments were decorated with spiral designs like **XXX.** 2 and 3, but there were some interesting exceptions. One of the smaller baths (like **XXX.** 2) had a row of fishes swimming round the inside, and a fragment of the same class shows part of an octopus (**XXX.** 5). The octopus is a very rare subject on the local pottery of Melos, although so common on other Mycenaean fabrics; in fact I did not observe more than two instances of it. **XXX.** 4 is also a fragment of a small bath; the design consists of a row of large rosettes connected with one another as if they were spirals. The design on Fig. 114 will be at once recognized as of Egyptian

origin. The subject is a wild duck flying upwards through papyrus plants, one wing being represented as raised and the other as lowered. The plant with its fan-shaped top and short sepals is clearly copied from the traditional Egyptian type (cf. the coloured specimens in the plates of *Beni Hassan*, vol. iv.). The large size of the design and its Egyptian style suggest that it may have been taken from a Mycenaean wall-painting. The same subject occurs on one of the inlaid sword-blades from Mycenae which has often been referred to as an example of Egyptian influence (Schuchhardt, p. 266). Fig. 115 again is a fragment of a similar scene, the head of a duck against a background of reeds.

FIG. 115.—FRAGMENT FROM A BATH OR OTHER LARGE VESSEL[1] (2 : 3).

XXX. 9 *a*, *b*, *c* are fragments of a vessel like Fig. 113, but of later style, the design being entirely executed in lustrous brown. It is to be restored as a row of carelessly drawn human figures standing with outstretched arms amid growing plants; the upper space is filled in by two rows of swastikas; below their feet runs a wavy border and below this again appears the top of a flower with stigmas and stamens like those of section 12. Possibly it represents a dance, though it is just as probable that the combination of the figures is purely decorative. The drawing of the hands may be compared with the rendering of the hair on XIII. 17. In the latter fragment the old geometric

[1] Reddish clay with usual slip; the design is painted in slightly lustrous, streaky brown. The shaded parts in the above drawing merely indicate the places where the pigment is thin and faint and do not represent a second pigment.

scheme of **XIII.** 14 is still dominant although environed by curvilinear motives, in **XXX.** 9 it is entirely debased.

It will be observed that a row of studs runs round the outside of Fig. 112 just below the rim. **XXX.** 4 again shows a stud on the top of the rim, and similar ornaments occurred on many other examples. As such studs are in many cases imitations of nail-heads and indicate that a vessel is copied from a metal form, it might be thought that the terracotta baths have been modelled on metal prototypes. Homer indeed sings of two silver baths which were sent to Menelaus as a gift from Egypt (*Od.* iv. 128). But even in a Mycenaean palace a bath of silver or bronze must have been a rarity, and as the stock Homeric epithet of εὔξεστος is more appropriate to wood than to any other material, it may be suggested that if the terracotta nail-heads are more than a mere ornament, they may be derived from a *wooden* model.

§ 15.—*Series of Flat Bowls with Spouts.*

The following vases are grouped together, not because they belong to one period or one fabric, but because they illustrate so clearly the evolution of a type. The earlier members of the series are a characteristic feature of the geometric period and are of the same fabric as the pottery of section 7, while the latest ones belong to the closing stage of the local industry. But it would be impossible to divide the intermediate specimens into those that belong to the geometric style and those that belong to the later style. They shade into each other and the series is without a break. Nothing could reveal more clearly than does this group of vases the steady undercurrent of local tradition.

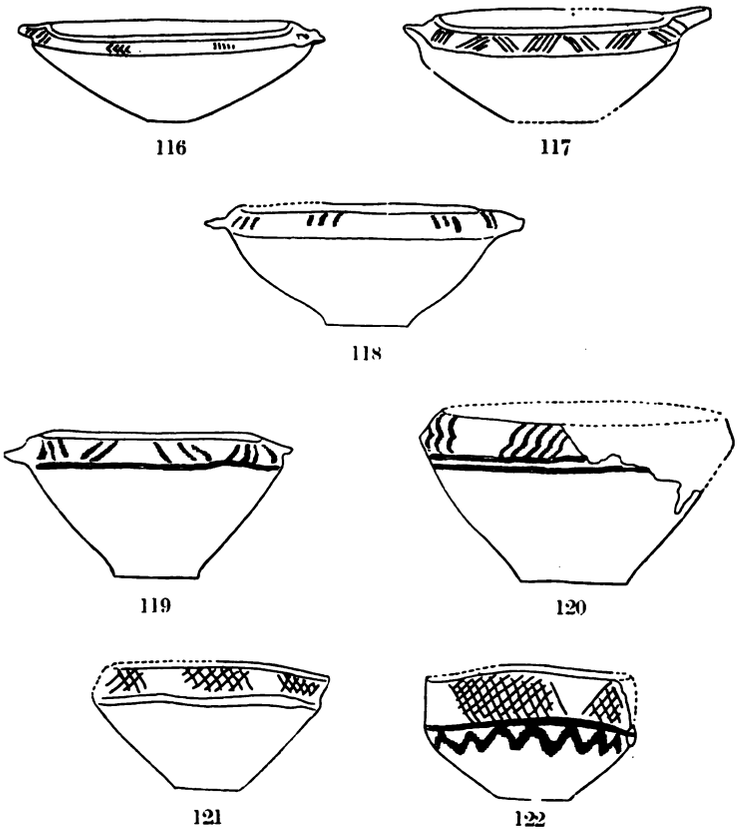
Among the early burnished ware, prior to the introduction of painted patterns, we frequently find fragments of flat bowls or plates with a more or less recurved rim (cf. p. 86).[1] That is the origin of the type.

Pl. **XXXIII.** 1–2 are specimens of a cognate and very common form of bowl, but they do not belong to the series proper. The first stage of it is represented by **XXXIII.** 3–5. The vase is covered, inside and out, with the exception of the rim, with a lustrous red or brown coat, in some cases fairly brilliant: a band of chalky white slip with designs in matt black runs round the rim. In many cases the edge of the rim is defined by a slightly impressed line round the outside, a feature which is characteristic of the burnished prototype. The suspension-handle is almost always horizontal, **XXXIII.** 4 being an exception. 4 shows the normal pattern, and 3 and 5 illustrate the variations that were occasionally ventured on.

[1] The same feature is conspicuous on certain early vases from Hissarlik and Crete, to go no farther afield (*e.g. Amer. Journal of Arch.* 1897, p. 301, Fig. 12). It occurs also in stone, and there are stone vessels of this form with a spout (*e.g.* in Br. Mus. from Mr. Bent's finds). As regards the spout on the Melian bowls, it should be noted that it is always opposite the string-hole, so that when the vase was hung up any liquid left in the bottom would find an outlet: perhaps this was the object of it.

It marks a further break with tradition when not only the rim but the whole of the outside is covered with the white slip (*e.g.* **XXXIII.** 6–8).

A large class, represented by **XI.** 7 and 8, is a side issue from the series rather than a link in it. The vases composing it are as a rule much larger than those with which we have been dealing. They are covered with a white coat both inside and out. The rim is vertical or nearly so (in



FIGS. 116-122.—SERIES OF LOCAL VASES.[1]

the case of **XI.** 8 the edge is slightly bent outwards) and the handle also is vertical. Lastly the patterns are, comparatively speaking, of great variety.

To return to the direct line, **XXXIII.** 10 (which belongs to the same fabric as the group of vases described on p. 152) is an example of the next stage of evolution. It is not so flat as the early type, the surface is no longer

[1] Reproduced from *B.S.A.*, iv. Figs. 117, 118, 119 appear also on Pl. **XXXIII.** An unpublished pot similar to Fig. 120 but in better preservation shows a more distinctly concave rim and has the design painted in red.

lustrous, and the ornamentation is less fine. **XXXIII.** 12–14 are other specimens of the same period.

XXXIII. 16 compared with the foregoing shows a distinct advance, or rather decline; the spout is merely pinched out of the rim and the handle-ledge is unperforated; further, it bears traces of rapid turning on the wheel. If **XXXIII.** 10 is on the border line between the geometric and the Mycenaean periods, **XXXIII.** 18 belongs emphatically to the latter. It is needless to add to these comparisons; the illustrations speak for themselves. Though in some instances the ornamentation follows the fashion of the day (*e.g.* **XXXIII.** 17), yet as a rule the old stock patterns are kept up. **XXXIII.** 18 and 19 are the lineal descendants of **XXXIII.** 7 and 6.

The type suffers a further alteration when the rim is made slightly concave (see Fig. 120). A few of the later vases have the design in red paint, but as a rule the use of the matt black pigment is kept up even in the latest period. The final stage of all is represented by **XXXIII.** 20. The suspension-handle has become a mere button, the spout is still farther removed from the prototype than is that of **XXXIII.** 19, and without the intermediate links of the series it would be difficult to believe that such a vase is directly descended from the type with which we started.

It would be easy to make the series still more complete (to follow, for instance, the transition from the design of **XXXIII.** 19 to that of 20), but it is clear enough as it stands. The only variation from the normal type that is at all common is that the suspension-handle is occasionally replaced by an ordinary loop-handle. **XXXIII.** 11 affords an instance of this on a comparatively early vase, but naturally it is on the later types that one more often finds it. **XXXIII.** 9 is an isolated innovation of another kind.

§ 16.—*Imported Pottery of the Ordinary Mycenaean Type.*

The fourth and final stage of the Phylakopi settlement is marked by the predominance of imported Mycenaean ware (of the 3rd and 4th styles according to F. and L.'s classification). No other kind of painted pottery was so plentiful as this, and the insignificant space which it occupies in our illustrations is in inverse proportion to the amount of it that was dug up. For unfortunately there was little of intrinsic interest in the many thousand fragments that passed under our examination.

The specimens found correspond in range with the series from Mycenae published by F. and L., beginning with marine and floral designs of fantastic appearance and ending in the careless scrawlings of Fig. 125. To the earlier class belongs the magnificent fragment of a large jug reproduced on Pl. **XXXI.** 1 (a fragment which recalls the Marseilles vase already cited), while the spearman on Pl. **XXXII.** 16, and the ship on **XXXII.** 11 are interesting products of the later style. The goat on p. 176 is more carefully drawn than animals usually are in F. and L.'s 3rd and 4th groups, and the technique is also remarkable, the outline being painted in lustrous black,

and the interior parts filled in with matt red.[1] This was one of the few fragments found in the *megaron* of the Palace.

It may be asked, if this pottery is so plentiful at Phylakopi and if it supersedes the finer products of the local fabrics (*v.* p. 160), is it not likely that at least some portion of it is native made. I do not think so. In the first place the local ware is quite different in composition from what we have called the 'imported Mycenaean' kinds; it is comparatively coarse, soft and porous. In the second place, amid the large mass of 'imported Mycenaean' one cannot distinguish any section in which the style has any close affinity, anything more than a resemblance of the most general kind, to the Melian style as illustrated on Pls. **XIV.—XXX.** We cannot therefore admit that any of the pottery under discussion is of Melian manufacture except on the assumption that the new technique was introduced from abroad in a perfected form and that an alien style was imported

FIG. 123.—MYCENAEAN VASE OF COMPARATIVELY EARLY STYLE FROM PHYLAKOPI[2] (1 : 3).

along with it which remained entirely independent of the old-established local style. The alternative conclusion—the truth of which is taken for granted throughout this article—is that with increasing importation of superior ware the local school gradually declined until finally all the better painted pottery used in the settlement was brought from elsewhere and nothing was made on the spot except the most ordinary household vessels.

The question whence this ware was imported is a more difficult one to answer. The view expressed by F. and L. in 1887, that all the pottery of this class comes from the Argolid, no longer holds the field. It is now recognized as more probable that there were fabrics in various places; no serious attempt however has yet been made to locate them and distinguish between them. Crete has been suggested as the most probable centre of manufacture in the earlier period and we naturally think of Crete

[1] The same technique occurs on a group of Mycenaean vases from Crete.

[2] Lustrous black paint. Restored.

as a likely source of supply for Melos. We know that a good deal of Kamáres pottery was imported from Crete (*v.* p. 148) and that there was also a trade in stone vessels (*v.* p. 196), and I may add that many fragments of ordinary pithoi, evidently not local, seemed to me to be of Cretan fabric.

Since the time of our excavations in Melos, and even since the above paragraphs were written, the question has come to be partly settled. The recent excavations in Crete have thrown much light on the origin of Mycenaean pottery of what we may call the mature technique. On the whole they amply confirm the idea that Crete was the cradle and chief centre of the manufacture. But they have also disclosed several distinct fabrics in different parts of the island. The vases from Zakro are peculiarly instructive in this connection; on them we find the same designs constantly repeated but sometimes executed in the Kamáres technique, and sometimes in the

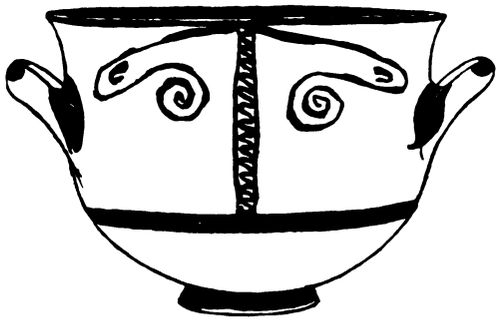


Fig. 124[1] (1 : 3).

Fig. 125[2] (1 : 3).

Specimens of Late Mycenaean Pottery found at Phylakopi.

mature Mycenaean technique: they are obviously the product of a local school in process of transition from the one style to the other. To a Cnossos fabric has been assigned with great probability a group of large vases in the so-called 'Palace Style,' characterized by fantastic floral designs combined to a large extent out of Egyptian elements; several fragments of this class were found at Phylakopi. Among other vase-types that may be claimed for Cnossos a somewhat later group of large pseudamphorae with a sprawling octopus design is the most conspicious. It is probable indeed that the earlier vases in the fully developed Mycenaean technique belong without exception to some fabric or other in Crete. The later Melian pottery, which, though equal from the decorative point of view to the best of the Cretan vases (whether of the Kamáres or the mature Mycenaean fabrics), is much inferior to them technically, proves that the art of making this superior kind of ware had not penetrated into the neighbouring Aegean area, nor is there any reason for

[1] Reddish clay; design in somewhat reddened black; inside glazed black.

[2] Grey clay; reddish brown paint; suspension handle. From the Well.

supposing that the Peloponnesus was in advance of the Cyclades in this respect; on the contrary, if the matt-painted vases from Mycenae are to be regarded as products of local industry, it must be confessed that they are inferior in technique to the Cretan wares and in artistic merit to the island vases in general. In the later period, however, there were probably a good many fabrics outside Crete which had mastered the art of making finely levigated, thoroughly baked and brilliantly glazed pottery; Cyprus for instance had almost certainly one or more fabrics of its own. It is this later pottery that is found in such masses in the top settlement at Phylakopi: globular pseudamphorae with bands round the body and debased flowers on the shoulder, long-footed *kylikes*, and all the other familiar types. The painted fragments might have been separated into several groups on the ground of differences in clay, paint and ornamentation; but this was a work which I had not time to attempt. It is much to be hoped that the later Mycenaean fabrics will some day be differentiated with as much precision as the sixth century wares of Greece and Ionia.

§ 17.—*Kamáres Ware.*

Pl. **XXIV.** 8 and 10 and Figs. 126–133 comprise the best preserved specimens found at Phylakopi of that early Cretan ware which is known by the name Kamáres. A good deal of it turned up all over the site, but in most cases unfortunately the painted surface was much injured by salt. The find included a few pieces of large painted ware, but the great majority of the fragments belonged to comparatively small vases. The average depth at which it was embedded was decidedly low and the native wares with which it was usually found in conjunction were those of Sects. 7—10. Crete was in all probability far ahead of the Cyclades in the development of artistic decoration, and a good deal of the Kamáres pottery may well belong to a period when the geometric style was still predominant in Melos and the neighbouring islands.

Among the recognizable types occurred cups like *J.H.S.* 1901, Pl. VII, three-handled jugs (*loc. cit.* Pl. VI.) and vases of the same general shape as **XXV.** 1 but without any rim.[1] Fig. 129 reproduces a vase of the last mentioned class with a short neck and an angular shoulder. One fragment appeared to be part of a filler like **XXVII.** 5 (?); the material, however, was much shattered and adds nothing new to the list of vase-forms given by Hogarth and Welch in *J.H.S.* 1901, pp. 78 ff. (See also Mackenzie, *J.H.S.* 1903, 172 ff.)

Of greater interest is the ornamentation. Two Phylakopi fragments of very thin ware, with indented as well as painted patterns, have been published in the article just now referred to and rightly pointed out as close imitations of chased bronze work. Several other pieces had the

[1] Fig. 126 ought to be restored as a specimen of this type.

rough thumb-marked surface characteristic of the Kamáres fabric. Fig. 133 is a remarkable variation on the design discussed on p. 131, and the round-

FIG. 126 – (1 : 3).

FIG. 127.—(3 : 4).

FIG. 128.—(2 : 3).

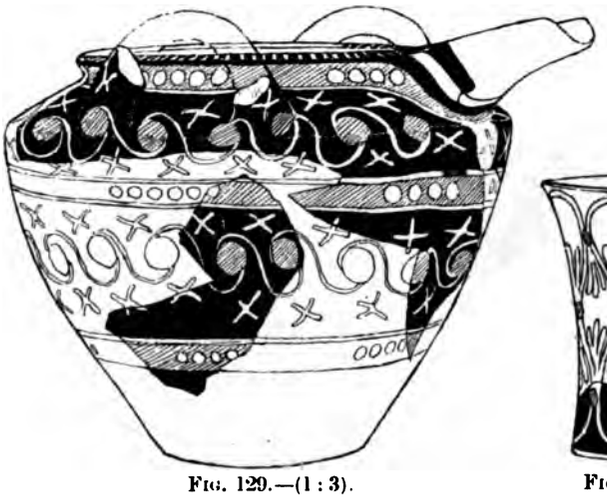


FIG. 129.—(1 : 3).

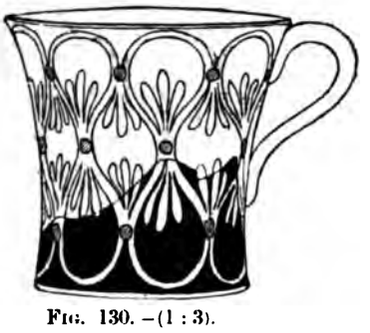


FIG. 130. – (1 : 3).

KAMÁRES POTTERY FROM PHYLAKOPI.

(Designs in white and red on a black-glazed surface.)

topped flower between each pair of spirals has been already mentioned in connection with a pattern which occurs very frequently on the beaked jugs of

Sect. 9 (*e.g.* **XIV.** 5); the little three-petalled flowers on each side are supposed to spring from the ends of the spirals. It is surprising to find so advanced a

FIG. 131.—(2:3).

FIG. 132.—(1:2).

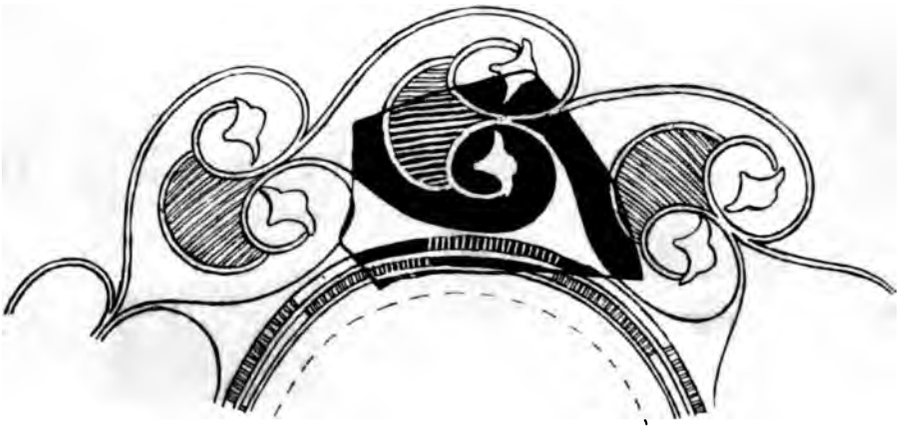


FIG. 133.—(3:4).

DESIGNS ON KAMÁRES POTTERY FROM PHYLAKOPI.

specimen of this type of design on such comparatively early ware. Equally advanced and complicated is the pattern on Fig. 132. The main part of the

design on Fig. 127, if fully drawn out would be found to consist of contiguous shaped figures, a not uncommon Mycenaean pattern (cf. *Journal of Royal Institute of Brit. Architects*, 1902, p. 128).[1] Fig. 130 contains a complicated design of the same type as that on **XXIV.** 4, though the flowers which are connected by the semicircular links are of a different order (cf. p. 116). The shape of the petals on the large rosette on Fig. 126 lends support to the view that the pattern on the beaked jugs of Sect. 6 represents a garland, and it should also be observed that they are connected with each other by cross lines similar to those on Egyptian petal garlands.

In looking at these Kamáres fragments one cannot but be struck by the inventiveness and resource which they display and by the freshness which is imparted to such stereotyped schemes as Fig. 133 by variety of detail. It is interesting, too, to find that so many of the Kamáres fragments from Phylakopi are of the finest sort of painted ware and do not belong to mere storing-vessels; for it shows that these vases were imported for their artistic value and not, as was probably the case with the pseudamphorae found in Egypt, for the sake of their contents. The finely baked clay and the brilliant black glaze were no doubt the points that attracted most admiration, for in these technical qualities the native pottery of Melos is conspicuously inferior.

There can be no doubt that Cretan influence was predominant in Melos from the beginning of the Mycenaean age. The movement being from the south, Melos lay in the very highway of it: from the artistic point of view she was mainly a province of her larger neighbour. When more of the Cretan finds have been published it will become more apparent how much of the Phylakopi pottery is based on Cretan models, I do not mean on vases alone, but on jewellery, wall-decoration, and other forms of art. But it is not a case of imported objects being admired and superficially imitated as, for instance, Greek vases were by the Etruscans. It would be a mistake to regard the Melian vases as mere imitations of the Cretan: as minor works of art they are in fact on the same level as the latter. The designs on Pls. **XIV.–XXX.** bear witness not only to the appreciativeness and technical skill of the people who executed them, but also to a certain natural inventiveness in altering and combining and creating new effects out of such material as had come within their ken. The spirit as well as the form is thoroughly Mycenaean.

§ 18.—*Odds and Ends.*

In the present section I have gathered together a number of vases and fabrics, which for some reason or other, I left unmentioned in describing the

[1] Possibly it originated in a complicated spiral scheme like certain Egyptian patterns (cf. Petrie, *Decorative Art*, pp. 32, 35).

main classes of the Phylakopi pottery. They have of course nothing in common among themselves, belonging as they do to various styles and various periods.

Pl. IV. 13 is an early vase of peculiar form. The shape of the vessel without the spout may be traced back to the commonest of the cist-tomb types (Figs. 67 and 71). It is perhaps of the same ware as the following pot.

Fig. 134 is a jug of the same general form as VIII. 7, with the addition of a small spout projecting from one side of its body. The side-spout is a common feature on early Cypriote and Anatolian vases (*e.g.* Myres, *Cat. of Cyprus Mus.*, Pl. II, 55, 177), and a good many examples were found at Phylakopi, especially in the ware of Section 9. The design on Fig. 134 is in white upon a smooth brown and black surface; it belongs to a very common type (cf. p. 100).

Fig. 134.[1]—(1 : 3).

The above vase is made of a peculiar dark red, shimmering clay, very harsh to the eye, and several other pots which do not all belong to one period appear to be made of the same sort of paste. Among those that are included in our illustrations the following closely resemble Fig. 134 in the appearance of the clay, Pl. IV. 3 and 5, Pl. V. 12 and 16, Pl. XXVII. 8 and 9, Pl. XXXV. 14. It seems probable, therefore, that all these come from one locality, whether in Melos itself or in some neighbouring island.

Among the various kinds of pottery with white designs, one small group, represented by XIII. 12, 15, 19, deserves a special mention. The vases of this group are made of rather coarse, more or less red, clay covered with an almost lustreless coat of black or brown. (Some of the flat, spouted bowls described in Sect. 15, *e.g.* No. 10 on Pl. XXXIII, are apparently of the same fabric). Most of the fragments belong to beaked jugs, usually of the same general type as XI. 1–3. The lower end of the handle is stuck through the wall of the vase in the manner characteristic of the geometric period. The ornamentation, though pronouncedly curvilinear, retains much of the older style; note especially the vertical lines on XIII. 15. XIII. 19, again, is a vessel of the same type as VIII. 5, though probably of rather later date, and the main pattern (cf. the 'letter' H 3, p. 179) has been suggested by a human figure of the usual geometric type, such as XIII. 14. The fabric is evidently of the same date as the later vases of Sect. 7, and stands on the verge of the Mycenaean style.

The fragments from which Figs. 135 and 136 have been ingeniously restored by Mr. Bosanquet belong to the geometric stage; the clay is similar to the ware of Sect. 6. It was indeed just at this period that multiple vases

were most in fashion: we do not meet with them in the later Phylakopi fabrics. Fig. 136 is painted in the same technique as a twin-vase in Sèvres which has been already referred to.

V. 16 is a fragment of a goblet of a very common type, the lower part of which is to be conceived as of the same general form as Fig. 137. The shape

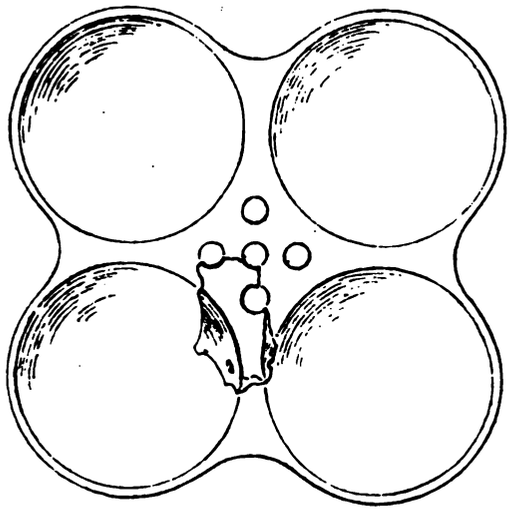


FIG. 135.[1]—(1 : 6).

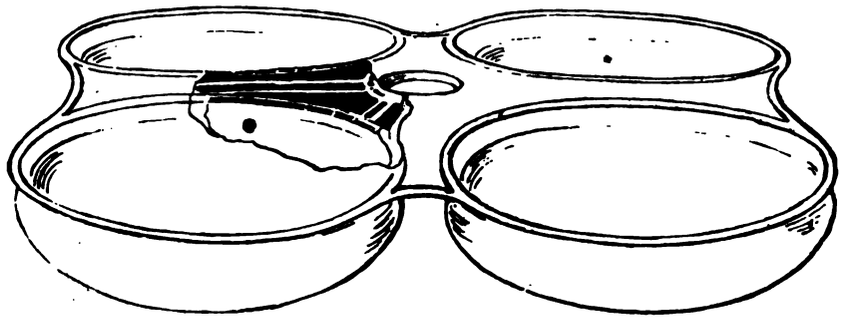


FIG. 136.[2]—(1 : 3).

of the neck varies considerably. Sometimes we find suspension-handles, sometimes vertical handles like those of Fig. 137; others have horizontally attached handles standing upright close against the neck, and a still further variety is illustrated by XXIV. 14. The better fragments have a lustrous red surface on which the marks of a paint-brush can frequently be detected,

[1] Gritty grey clay; lustrous red coat; connecting hole between each pair of cups.

[2] Same ware as the preceding; slightly lustrous dark coat; design in white; connecting holes as on Fig. 135.

while in other cases it has received an additional sheen from burnishing. The neck and foot of the vessel were in many cases fluted horizontally. Incised patterns as on **V.** 16 were not common, but a good many fragments bore traces of a simple pattern in white lines like that of **XXIV.** 14. Fig. 137 is a coarse and comparatively late specimen of the same general class.

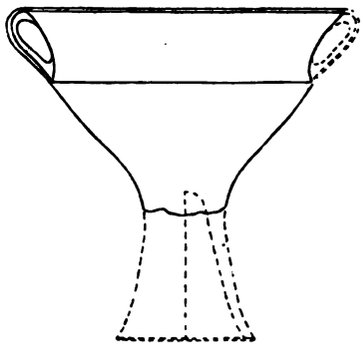


Fig. 137.[1]—(1 : 6).

We also found many fragments of goblets shaped like those just described but made of dark grey clay exactly like the archaic 'Lesbian' ware which Mr. Gardner discovered at Naukratis. This sort of pottery occurs on many Mycenaean sites, and there is of course no reason for supposing that any of it was manufactured in Melos. It bears conspicuous traces of having been turned on the wheel and does not occur in the lower strata.

XXIV. 13 is a fragment of another type belonging to the same fabric as the above-mentioned goblets with lustrous red surface. It is part of a shallow dish with a low rim, and perhaps a high hollow foot. The rim is surrounded by a deep slit round the outside, and is pierced by suspension-holes arranged in pairs. Another variety has a higher rim with a more or less pronounced fluting round the outside. **XXIV.** 13 has a pattern of white cross-hatchings round the top of the rim. Other fragments again are decorated on the underside with narrow strips of white, crossed at intervals by sets of short black lines.

Another kind of ware that was plentifully represented, though almost entirely by fragments, was composed of very dark clay with a well-burnished surface. The clay was intentionally blackened, or at least darkened, through and through, and the surface lustre was entirely due to hand-polishing. The commonest forms were large bowls of the same general shape as **XXXIII.** 2, and short-necked amphorae, sometimes provided with a spout; both these types seem to have had a small foot. Another more or less recognizable type had a neck like that of Sect. 6, no. 2 and vertical suspension-handles on the shoulder. The pretty fragment shown under Fig. 138 is decorated with spiral ribbing. Fig. 139 is a complete vase of the same class. Fig. 140 on the other hand, though similar in outward appearance, is made of ordinary pale-coloured clay.

Fig. 138.[2]—(1 : 3).

[1] Light red clay; lustrous red surface, probably polished.

[2] Dingy clay with dark polished surface (much injured); suspension-ear on each side of neck.

The patterns on Figs. 141 and 143 are painted in matt black on a chalky white slip. In technique they may be classed with the ware of Sect. 7, but in

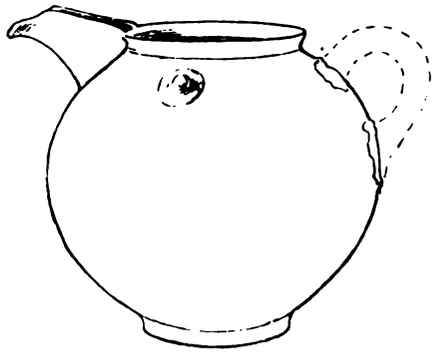


FIG. 139.[1]—(1 : 4).

FIG. 140.[2]—(1 : 4).

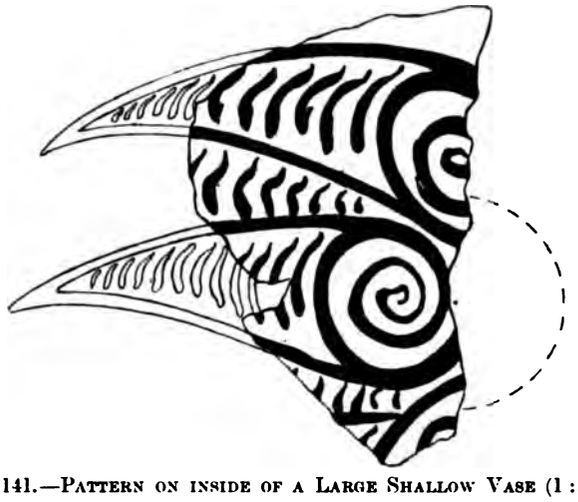


FIG. 141.—PATTERN ON INSIDE OF A LARGE SHALLOW VASE (1 : 3).

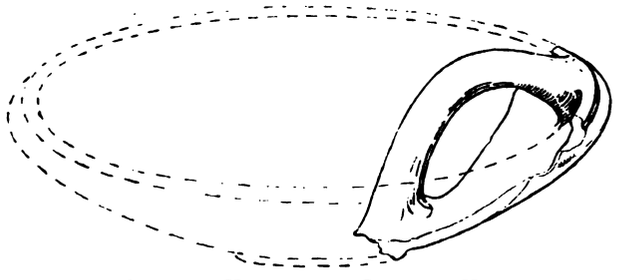


FIG. 142.—SHALLOW VESSEL WITH INTERIOR HANDLE (1 : 4).

style they are completely Mycenaean. The patterns themselves should be compared with some of the gold plaques from the shaft graves, such as Schlie-

[1] Dingy clay, dark brown polished surface knob on each side of shoulder.

[2] Light-coloured, gritty clay, lustrous dark coat.

mann *Mycenae*, p. 323, no 491. They are somewhat suggestive of shells, but it is doubtful whether this idea was in the mind of the artist and certainly the groundwork of the design is in each case a spiral scheme. Fig. 142 is a restoration of a large bowl with an interior handle reaching from rim to base: possibly the original vessel had more than one such handle. The fragment is of the same ware as Fig. 141, and was not the only example of this peculiar

FIG. 143.—RIM AND SHOULDER OF LARGE VASE (1 : 4).

type, to which some parallels can also be cited from Egyptian pottery of the 12th Dynasty (Petrie, *Kahun, Gurob, and Hawara*, p. 25, pl. xiii., 58). Fig. 144, another instance of interior decoration, recalls some of the designs in Sect. 9, but the fragment is of different ware, being composed of gritty, reddish clay with light-coloured slip: the paint is the usual lustreless black, A curious fragment of a similar sort of ware, reproduced on Pl. **XIX.** No. 8,

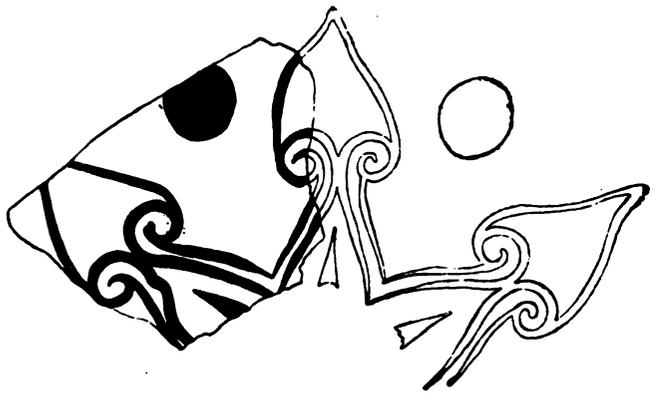


FIG. 144.—INTERIOR OF SHALLOW VASE (1 : 2).

contains a representation of a small human figure, which, like the goblin on Pl. **XIV.** 9, has a spiral ornament placed over its head by way of a suggestion of hair.

Pl. **XXIV.** 15 is part of a peculiar vase with small holes pierced through its sides and with no opening at the top: its use is unknown and even its shape is uncertain: the stratum in which it was found was decidedly early,

The similarly perforated cup shown on **XXXV.** 13 has many parallels among the Hissarlik vases. As regards its shape it is like the geometric cups of Sects. 6 and 7 with the addition of a small hollow foot: the same footed type, as has been already said, occurs among the painted ware found in Siphnos and Syros.

Pl. **XXXV.** 17 is an example of the ordinary type of three-legged cooking-pot. Another common type, of which we have no entire specimen, had straight sides and no neck, the handles being either attached as on **XXXV.** 17 or standing upright on the top of the rim (cf. Fig. 77). Baking pans like those found at Tiryns and Mycenae (Schliemann, *Tiryns*, p. 116, No. 26) were represented by numerous fragments. The large vase represented by Fig. 145 has low, wide-spreading sides and a cup-like, sharp-edged hollow in the middle: the type is fairly common, and bears some resemblance to the large vessels used in ancient Egypt for washing the hands over. Fig. 146 has a remarkable turned-over rim.

In a house belonging to the latest settlement there was found a collection of small and very rude hand-made vessels of which **XXXV.** 12 is one of

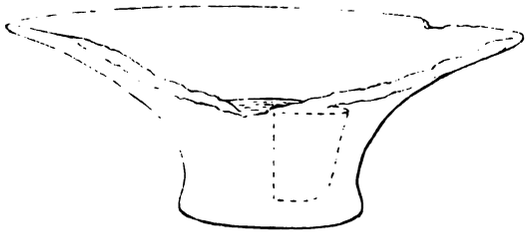


FIG. 145.[1]—(1 : 4).

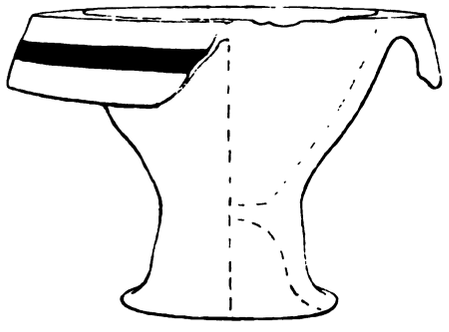


FIG. 146.[2]—(1 : 3).

the least shapeless specimens. **XXXV.** 8 is of the same class of ware, and so is a small jug found within the fortress and published in *B.S.A.* vol. iii, p. 57, Fig. 5. The other vases of this group, however, are much ruder than these, and have no distinct form. But primitive as they are in appearance, they are not to be confounded with the genuinely primitive ware of the cist-tomb period. Mr. Bosanquet has rightly remarked that the small jug which he published, though of rude workmanship, is not really of an early type. **XXXV.** 12 again, with its foot and high handle, is clearly copied from a model of the Mycenaean age. The whole group is comparatively late and the rude workmanship is an intentional anachronism. It has been suggested by Furtwängler and Löschcke with reference to some late, hand-made vases found at Mycenae, that they were intended for use in religious ceremonies,

[1] Ordinary ware of later period; coat of red outside and streaky brown inside.

[2] Ordinary ware of later period; white band round neck.

and this is the probable explanation of the Phylakopi vases. A close and well attested parallel is the use of stone knives in religious rites long after the introduction of metal. In accordance with this explanation **XXXV**. 8 might be interpreted as a censer. The wheel-made vessel, Fig. 147, is of the same form and bears marks of burning in its shallow bowl. It should be remarked further that the general shape of these two vases is the same as that of the 'pedestal vases' (p. 137), a circumstance which to some small extent is in favour of their having had a common ceremonial character.

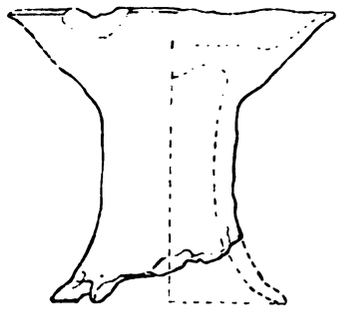


FIG. 147.—CENSER (?) (1 : 4).

We found several fragments of animal-vases of the later local ware. The best and most realistic of these is the hinder part of a cow illustrated on p. 204; a round aperture in the middle of the back shows that it was probably an actual vessel and not merely a statuette. The little quadruped on Pl. **XL**. 3 is a humbler work of the same class. Pl. **XXIV**. 7, again, is part of a vessel made in imitation of a bull's head. The illustration shows the line of the vase and a small opening pierced through the mouth; for

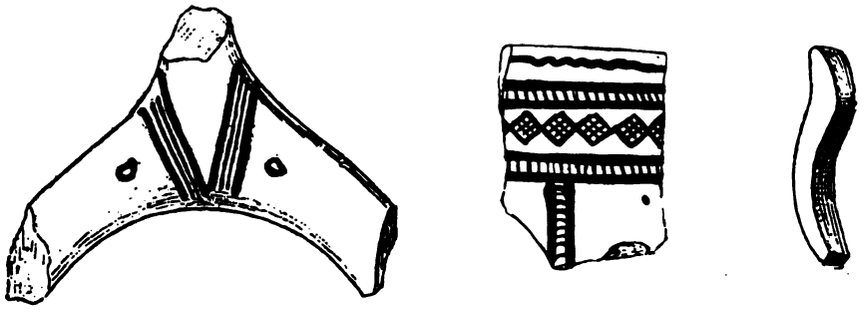


FIG 148.—*a*, *b*, *c*.—FRAGMENTS OF CYPRIOTE BOWL[1] (1 : 1).

the way in which this and another similar specimen are probably to be restored, see p. 205 *infra*, Figs. 178, 179.

Among the plentiful fragments of pottery that were certainly not of local manufacture, those shown in Fig. 148 are perhaps the most interesting in the present state of our knowledge. They are made of very white clay with a fine, smooth surface, and the pattern is applied in brown-black paint. The bowl of which they have formed part has had a slightly concave neck and a handle like a merrythought bone. It comes no doubt from Cyprus, as the

[1] *a* and *b* are the largest pieces preserved; *c* is a section, showing the curve of the side.

illustrations are sufficient to show, and is one of a few instances of the importation of Cypriote pottery into Greece in the early Mycenaean age[1]: another example has been furnished by the neighbouring island of Thera. The little fragment reproduced on Pl. **XXIV.** 12 is representative of a different kind of imported ware; it belongs to the same fabric as the globular jugs found in the shaft-graves at Mycenae. We came across a good many pieces of this ware and among them the greater part of a large jug with a frieze of birds.[2] It is interesting to note that the latter was found in the same deposit as the Cypriote fragments (see p. 163, J 2, 3–350 m).

§ 19.—*The Chronological Relations of the preceding Fabrics to each other and to the various Settlements.*

We have divided the Phylakopi pottery into four main groups, shading off into each other, and each of them capable of further sub-division. These are as follows:—

I. (*a*) The more primitive pottery of the cist-tomb class (Sect. 2).
(*b*) The more advanced ware of Sects. 3 and 4.
II. Painted geometric pottery (Sects. 5–7).
III. Local pottery in the Mycenaean style, with spiral and naturalistic designs: earlier period (Sects. 9, 10); later period (Sect. 13).
IV. Imported Mycenaean pottery of F. and L.'s third and fourth styles (Sect. 16).

The above order is roughly chronological; that was clearly proved by the stratification and by the average depth at which the fragments composing these groups were found. The question now is, can we bring them into relation with the various settlements as distinguished on Mr. Atkinson's plan?

Let me briefly recapitulate the results arrived at as regards the architectural strata. The remains of masonry laid bare within the bounds of the strong wall and the edge of the cliff can be roughly divided into three layers. On the top, we have a compact little town, with a palace of the usual Mycenaean type in the middle of it. Underneath this lies a second system of houses, the walls of which are in many cases surprisingly well preserved; the plan of the upper settlement is largely based on that of the lower and the house-walls of the latter have frequently been used as foundations for those of the former. Below this again we find at various parts of the site remains of a still older settlement, the houses of which for the most part are founded on the rock.

The history of the pottery and that of the buildings cannot be correlated

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[1] See Myres, *Cyprus Mus. Cat.* p. 18.

[2] This vase has been restored but is not reproduced here: it is exactly like those from the shaft-graves.

with perfect precision, or at least I cannot do it, and probably no one that has seen the site would expect it. Several important points, however, are clearly established, and with these we may conveniently begin, disregarding the historical order.

The top settlement yields fairly definite results. Putting aside the coarse, unpainted ware we may safely say that nine-tenths of the pottery from the highest stratum is 'imported Mycenaean' of F. and L.'s third and fourth styles. There was no doubt a certain proportion of painted native pottery of the later period (as well as fragments of other kinds), but all over the site the 'imported Mycenaean' ware was predominant. The final state of things was strikingly reflected by the contents of the well in the courtyard of the palace. The bottom of the well was filled up with broken pottery for a depth of several metres, and of the many hundred fragments that were fished up there were not more than ten that did not belong to the above class. Some of the pottery from the well was painted in a debased and presumably late style (*e.g.*, Fig. 125), and fragments of a similar kind, coarse in technique and careless in execution, were of frequent occurrence elsewhere (*v.* Pl. **XXXII.**). Assuming this style to be late we are led to the conclusion that the Phylakopi settlement continued in existence down to an advanced stage, perhaps the final stage, of the Mycenaean period. On the other hand the entire absence of archaic Greek pottery shows that it did not outlast the break-up of the Mycenaean civilization.

Let us now turn to the lowest settlement of which there are architectural remains. To this settlement we must assign the greater part of the early pottery grouped together in Sects. 3 and 4, which, as has been pointed out, closely corresponds with the finds from Pyrgos and Chalandriane. Further, a good deal of painted geometric pottery, as for instance, beaked jugs like Pl. **IX.** 1, was found in deposits which seemed certainly to belong to this settlement, side by side with duck-vases and similar ware; to this we shall return.

The finds seem to take us still one stage farther back. As was related in Sect. 2, a large mass of the most primitive cist-tomb ware was found within a small area of the site, lying close above the rock, while outside this area we obtained almost nothing of the same sort. It was not found within house-walls; the last house-walls do not come down to the rock at this point. Is this then simply the earliest rubbish-heap of the bottom settlement or is it the relics of a still earlier period of occupation? I have taken the latter view. It does not seem likely that the existing houses, within which were found the duck-vases and the beaked jugs of Pl. **IX**, were originally built by the people who used these extremely primitive vessels. More probably their dwellings were of very poor quality, perhaps of perishable material, and have left no distinguishable traces.[1] It may be due to more than a mere accident, that though dozens of cemeteries containing similar pottery have been discovered in the Cyclades, yet the dwellings of the people to whom the graves belonged

[1] The lowest strata at Cnossos are said to be characterized by remains of mud buildings.

have been searched for in vain. The remains of houses explored by Mr. Tsountas in Paros are the earliest example of a decently-built settlement that has yet been discovered in this region, and, as we have seen, the pottery there is of later type than that of the most primitive tombs.

We come now to the pottery found between the top settlement and the bottom settlement. What is clear here is that at least the earlier portion of the local pottery with curvilinear and naturalistic designs belongs to the penultimate architectural stage. Certainly the bulk of it was found well below the floor levels of the top settlement. For instance, the bird-vase Fig. 91 was found at 2 m. 20, and it was at about this depth that fragments of the 'black and red' class were most common. On the other hand a good deal of it (especially the more advanced types described in Sect. 13) was obtained in later deposits. Applying a practical test we find that the average depth at which the fragments illustrated on Pls. **XXVIII.**, **XXIX.** were embedded is only about 1 metre, four-fifths of the designs being entirely in glaze-paint. It may be inferred therefore that the local manufacture of painted ware continued down to the time of the final settlement, though probably it had come to an end before the abandonment of the site.

Although the most of the 'imported Mycenaean' pottery lay quite close to the surface of the mound, a fair amount of it was found at a sufficiently low depth to prove that it had come into use before the building of the final settlement. Part of it is contemporary with the local fabrics of Sects. 8–14.

The most striking thing in the history of the Phylakopi pottery is the change from the geometric to the naturalistic style. There does not appear to be a corresponding architectural break. The bottom settlement, indeed, is seen to be markedly distinct from the one above it wherever we have an opportunity of comparing them; that is, the latter has been built without any regard to the lie of the former. As has been related, we found a good deal of characteristic geometric ware amid the remains of the lowest settlement. It is tempting therefore to assign the geometric style to this stratum, and to regard the succeeding settlement as the beginning of a new order. But a survey of all the facts makes it impossible to do so. The geometric ware is found in great abundance at a much higher level, frequently in juxtaposition to the early naturalistic pottery and sometimes even to 'imported Mycenaean'; it was a matter of particularly common occurrence to find it mixed up with fragments of the same class as those which are reproduced on Pls. **XIV.–XIX.** Even in the highest stratum pieces of it occasionally turned up, and though these were probably accidental survivals, yet it is barely possible that they could have survived from the period of the lowest settlement. It must therefore be admitted that the geometric fabrics were still in a flourishing condition during part of the period of the intermediate settlement as shown on Mr. Atkinson's plan. This view is further corroborated by the fact that the majority of the plundered tombs in the neighbouring hill-sides, even the large rock-cut chamber-tombs, have contained geometric pottery, as is proved by the fragments lying about as well as by the entire vases in the Sèvres Museum and other collections; for it is impossible

to believe that all these tombs belong to the inhabitants of the somewhat scanty bottom settlement.

The truth is, there does not appear to have been any break in the local manufacture of pottery, in spite of the great change in style which took place. The series of vases arranged on Pl. **XXXIII.** is a striking instance of undisturbed development, and there are many other threads of connection between the old style and the new. A good deal of ware indeed may be classed as transitional (*e.g.* part of Pl. **XIII.**). All this indicates that the site was never seriously abandoned, and suggests that the nucleus of the population remained the same. It is not likely therefore that there was ever any great break in building operations. May we not conceive the middle architectural stratum as a thing of long and gradual growth around and over the older remains?

We speak of three strata, but that does not mean that we find three well-defined and widely separated floor-levels all over the site and that the pottery occurs only at these levels. Naturally not. The ground does not remain at one and the same level during the whole long existence of a primitive village. The floors and the streets gradually rise, and not at a uniform rate in every quarter; rubbish heaps accumulate; roofs and walls fall in; alterations and repairs are constantly going on. How much of the architectural history may not have been obliterated by the process of repairing and rebuilding.

It has already been mentioned that we sank two trenches in E 3 and J 2 with the view of observing the stratification of the pottery more accurately than is practicable in the ordinary course of excavation. As a detailed account of this experiment would probably be more confusing than instructive, I have thought it sufficient to give a summary of the results obtained from the larger and more interesting trench in J 2. The summary is as follows:—

In the first half-metre, out of a total of about 3,500 fragments, 2,000 were imported Mycenaean, 1,300 were of coarse local ware (chiefly from pithoi and small cups like **XXXVI.** 3) and 200 or so belonged to painted local pottery of the later style. In the second half-metre the fragments of imported Mycenaean and of painted local ware were about equal in number, while in the third half-metre the numbers of the latter class were four times greater than those of the former. Even in the top layer there occurred a few fragments of the geometric classes, but it was not until the third half-metre was reached that they formed an appreciable item of the total amount. At the same level lustrous-faced pottery, such as is described on p. 153–154, began to be fairly common, though fragments of it were found in the higher layers also.

The fourth half-metre contained a few fragments of imported Mycenaean, a good many pieces of painted local ware of the later style, about twice as many geometric fragments, and a comparatively large quantity of the lustrous-faced pottery mentioned above. The next two layers were chiefly given over to geometric ware, though in the fifth half-metre there were found about twenty fragments of the pottery described in Sect. 9 and one 'red

and black' fragment; there was also a fair amount of lustrous-faced pottery. It is worth mentioning also that each of the latter two layers contained a Kamáres fragment.

Painted geometric ware of the types discussed in Sects. 6 and 7 was still common in the seventh and eighth half-metres, but after this it became scarcer and scarcer. The seventh layer contained also a good many fragments of the black polished bowls mentioned on p. 154. In the same layer was found some of the pottery of Sect. 3, and this now begins to predominate. The coarser cist-tomb pottery of Sect. 2 made its first appearance in the eighth layer, became more common as the trench deepened, and finally had the last layer, or the thirteenth half-metre, practically to itself.

As regards the floor levels in this trial trench, the first occurred at a depth of 30 cm. below the surface, the second at 1 m. 20 cm., a third at 2 m. 40 cm.; below this again a wall ended at a depth of 4 m. 40 cm., and still another wall went down to 5 m.; lower than this there was no trace of stone construction. Though the pottery lay thicker at some levels than at others, yet there was a good supply of it all the way down. These facts are a strong confirmation of the view which has already been put forward, viz., that the site continued to be inhabited without a break throughout the Bronze age. They also show how complicated are the architectural remains and how necessary it is not to apply too rigidly the division into 1st, 2nd, and 3rd settlements.

The results of the trial trench in E 3 are not worth recapitulating at length. There was a comparative scarcity of painted local ware of the later period and an entire lack of the more primitive cist-tomb ware, but in other respects the stratification did not differ from that of the eastern trench.

In order to emphasize the above remarks and to give some examples of the data on which they are founded I have in conclusion selected from my notebooks a few brief descriptions of typical basketfuls from various depths and from various parts of the site.

F and G,[1] 0-1 m.—400 fragments of 'imported Mycenaean'; 9 painted fragments of later local ware; a few late cups and 100 fragments of pithoi and other coarse ware.

E,[1] 0-1 m.—60 fragments 'imported Mycenaean'; 2 painted fragments of later Melian; 2 cups and a few large fragments.

H 2, 2-3 m.—No 'imported Mycenaean'; a good deal of the ware of Sect. 9; good deal of geometric ware, including some beaked jugs and some mat-impressions.

J 1, 2·10-3·10 m.—Chiefly geometric ware; a few 'panelled cups,' beaked jug with griffin (Pl. XIV. 2), and pieces of coarse, flat bowls like XXXIII. 10.

J 2, 3-3·50 m.—One or two fragments of 'imported Mycenean,' but chiefly later Melian ware, 'pedestal-vases,' etc.; fragment of Cypriote vase (Fig. 148); globular jug like those from shaft-graves at Mycenae; small jug like XXXV. 9.

G 2, 2·90 m.—Ware of Sect. 9 and also a good deal of 'Kamáres.'

R,[1] 3·40 m.—Geometric ware, including pithos fragments and beaked jug; bowl like XXXIII. 3 some ware of Sect. 9 and some 'Kamáres.'

H 2, 3·10-4·50 (First settlement).—Entirely geometric pottery.

J 2, 4·70 m —(First settlement).—Geometric pottery and ware of Sect. 3; nothing later.

[1] The squares on the plan were originally numbered A, B, etc. and not A 1, A 2, etc. Not having any key for converting the former into the latter system I am obliged in some cases to cite from the old numbering.

As regards the actual date (and not merely the chronological interrelations) of the various classes of the Phylakopi pottery there is no need to say much here. The establishment of dates for Aegean pottery depends almost entirely on the conjunct discovery of dated Egyptian or Babylonian objects, and no such discovery occurred in Melos. There is good hope, however, that the Cnossos excavations will furnish some reasonably close dates for the Cretan fabrics, from which one will be able to work back to the pottery of the Cyclades. One aid towards this task is already provided by the Kamáres ware found at Phylakopi.

§ 20.—*Conclusion.*

There is still one point on which I feel it necessary to make some remarks before finishing, as it has an important bearing on the general character of the find. As for the wider 'Mycenaean questions' in which the Phylakopi pottery is implicated I must leave them to others and trust that the material published in this volume will be found serviceable.

It has been assumed throughout the present chapter that the bulk of the pottery discussed is of local provenance, by which I mean made either at Phylakopi or at some clay-bed within a reasonable distance. It is of course possible that the clay was brought from Siphnos or some other source and the pottery made at Phylakopi; but, as clay exists in Melos, it is more probable that this was utilized. It might be thought again that such articles as drains and well-linings, and in fact all the coarse unpainted ware, were made on the spot and that the better vases were imported from elsewhere; but it only needs a brief glance at the actual finds to see that the painted vases and the kitchen ware are unmistakably of the same fabric. We must either admit that there was a local manufacture of painted ware or we must suppose that all the pottery used in the settlement was brought from a considerable distance. This is not only improbable from a general point of view but is at variance with what we have learned from other finds. Such evidence as we have goes to show that the early Aegean settlements had their own special fabrics and did not import their pottery ready-made from one or two common centres. The geometric ware of Syros for instance is quite easily distinguished from that of Melos, while neither of them is at all like the contemporary pottery found in Aegina. The Santorini vases again, though closely akin to ours, are not of the same fabric. Many of the forms and some of the patterns are identical, but the clay has a different appearance and the style is coarser. There are indeed one or two fragments among them which it would be difficult to distinguish from the Phylakopi pottery, but these may very well have been imported from Melos. It is probable that in the early Mycenaean period Phylakopi was one of the most important places in the Cyclades owing to its position with regard to Crete and that it exercised some influence on the arts of the surrounding region. Though every settlement of any pretensions probably

had a special fabric of its own, a great deal of intercourse and interchange undoubtedly took place—the present find illustrates this very clearly—and thus in spite of local differences there was a constant general development in the same direction.

There seems then to be no reason for doubting that the greater part of the Phylakopi pottery is, as we have assumed it to be, of local manufacture. To be more definite I would venture to say that the main classes described in Sects. 4–15 are distinctively Melian, though there are certain minor groups in Sects. 4, 7, and 9 about which I feel uncertain. Whether the vases were made in the settlement itself or on the site of a neighbouring clay-bed is another question. The former alternative is the more probable. It is more in accord with general custom and is also the better plan from the practical point of view: for to transport heavy pithoi like **XXXIV.** 13 by means of men, horses and boats is no easy matter, as we can testify from experience. Further, the wealth of ornamentation on the Phylakopi vases is suggestive of their having been made in artistic surroundings, with plenty of material close at hand to draw from.

C. C. EDGAR.

EXPLANATION OF THE PLATES.

PLATE IV.

Dark-faced Pottery with Incised Patterns (see Sect. 4).

1. Reddish grey clay; dark brown surface (injured by salt). Scale 1 : 3.
2. Reddish brown surface without much lustre; short neck and holes on each side for securing lid; no connection between the two interiors; cross patterns on lids. Height 0·095, breadth across top 0·182.
3. Dark red clay with shimmer; slightly lustrous surface. Scale 1 : 3.
4. Clay like 1, with lustrous red coat; string-holes on rim. The pattern on the top consists of small impressed circles; remains of white filling. Scale 3 : 8.
5. Same fabric as 3. The handle is broken; hole on each side. Diam. 0·93.
6. Gritty grey clay with dark brown coat; traces of white filling. Scale about 2 : 7.
7. Usual grey clay with red coat. Small suspension-ring below neck broken off. Scale 1 : 3.
8. Brown surface, slightly lustrous; ledge-handles with string-holes. Height 0·285.
9. Clay like 7; reddish brown coat; marks of smoothing. Scale 1 : 3.
10. Brown polished coat. Height 0·053.
11. Black and red coat. Height 0·195.
12. Clay and coat like 7, etc. Scale 1 : 3.
13. Fairly smooth brown surface; ledge-handles with string-holes; two conical studs behind. Scale 1 : 5.

PLATE V.

1–6 are fragments of pyxides with slightly lustrous surface varying from red to black. 2 (*a*) and 2 (*b*) are contiguous pieces of the same vase.

7. Not clear from what type of vase.

8–12. Fragments of duck-vases. 8 is of gritty grey-red clay (Melian) with polished black surface. 9 and 11 also bear traces of burnishing. 9 is of an unusually light-coloured clay. 12 is a fragment of a black-faced vase made of dark red clay with shimmering particles.

13. From a red-faced pithos (see p. 86).
14. From a flat, red-coated vase which may have stood on a pedestal (cf. Ἐφ. Ἀρχ. 1898, Pl. 9).

15–18 are of later fabric than the others. They have polished red coats. 16 is made of dark red clay with shimmering particles.

PLATE VI.

Plaster Casts of Vase-bottoms with Impressions of Mats (see p. 94). The Casts are of course Reproductions of the Original Mats.

PLATE VII.

Pottery with Geometric Designs in more or less Lustrous Paint (Sect. 6).

1. Height 0 m. 72 cm.; two string-holes on each side of rim; the hour-glass pattern does not recur on the other side.

2–9 and 12–17 are fragments of pithoi and other large vessels. 4 (*b*) shows the lower end of the animal. With 6 cf. Ἐφ. Ἀρχ. 1895, Pl. X. 6. The design on 17 has been incised in the damp clay. Note also the incised mark on No. 8.

10. From small vessel of same shape as VIII. 4. Scale 3 : 8.
11. From small vessel of same shape as VIII. 5. Scale 3 : 8.
14. Diam. of mouth 0 m. 135 m. (Sect. 6, No. 4).

PLATE VIII.

Geometric Pottery (Sect. 6).

1 and 3. Lids with short necks and hole through centre (Sect. 6, No. 1). Scale 1 : 5.
2. Lid of similar shape with small handle. Scale 1 : 4.
4. Has had two ledge-handles with string-holes; four holes through rim. Height 27 cm.
5. Eton College Library, Copeland Collection, No. 16. From Melos. Height 42 cm., width (including handles) 39 cm. Festoon pattern round inside of rim.
6. Height 32 cm.
7. Eton Coll. Library, Copeland Coll., No. 17. From Melos. Height 267 mill. Pattern of curving spokes round inside of rim.
8. Cup without handle (Sect. 6, No. 10). Height 8 cm.
9. Sect. 6, No. 11. Handle broken. Height 7 cm. Mark on base (see Table of Signs, E 14 or F 3, p. 179).
10. Height 11 cm.
11. Height 58 mill.
12. Like 8. Height 75 mill. Impressed cross on base.
13. Part of small box with four short legs.
14. Kernos. Height 20 cm., diam. 20 cm. There are ten cups round the central bowl. The patterns, which are almost obliterated, have consisted of cross lines and zigzags. Found in a tomb together with Fig. 76, the beaked jug, Pl. IX. 10, and a great many bowls of the same shape as Pl. XXXIII. 2.
15. Large pyxis. Height 165 mill., breadth 29 cm.

PLATE IX.

Beaked Jugs (Sect. 6, No. 8).

1. Whitish slip, but no pattern. Impressed mark on throat (see Table of Signs, I 5, p. 179). Scale about 1 : 4.
2. Mark on throat (see Table of Signs, I 3, p. 179). Scale about 1 : 4.
3. Scale 1 : 3.
4. About 1 : 4.
5. About 1 : 4.
6. About 1 : 3. Pattern in front as on 8.
7. About 1 : 4.

8. About 1 : 3.
9. Scale 3 : 10. Very dark surface below where not covered by slip.
10. About 1 : 3. Found in tomb with kernos.

The above vases have almost all a line of paint down back of handle and a ring round the root. The lower part is usually smoothed more or less, and the slip is much thicker and firmer on the upper part where the design is.

11. See p. 100.

PLATE X.

Geometric Pottery (Sect. 6).

1-17 are fragments of cups. 1-5 belong to the convex-sided type without handle (Sect. 6, No. 10), while 6-17 are of the ordinary one-handled form. 1-5 are of finer, lighter-coloured ware than the two specimens on Pl. VIII. 7 also is of rather finer ware than its companions, and has had a *flat* handle.

18-27 are fragments of red-faced pottery with designs in white. 18-21 and 26, 27 belong to pithoi or other large vessels; of these 19 alone bears traces of burnishing. The other fragments are from various vessels of smaller size. For the pattern on 18 cf. VII. 1.

PLATE XI.

Vases with White Slip and Matt Black Paint (Sect. 7).

1. Height 215 mill. Mouth like No. 3; line down back of handle and ring round root; mark on handle (Table of Signs, A 11, p. 179).
2. Height 175 mill. Frieze of three birds; top restored.
3. About 1 : 4.
4. 1 : 3. Two horizontal notches on handle; two impressed dots on base.
5. Height 135 mill. Flying (?) bird on other side; four impressed dots at base; handle painted as No. 1.
6. Height 12 cm. For technique see p. 103.
7-8. About 1 : 4.
9. Ht. 7 cm.
10. Ht. 75 mill.
11. Ht. 6 cm. Four impressed dots below handle.
12. Scale 1 : 3.
13. Ht. 68 mill. Three impressed dots on base.
14. Ht. 9 cm. For restoration of handles see p. 105.
15. Ht. 11. Three impressed dots on base.
16. Scale 1 : 4. Row of four impressed dots on base. Rounded rim with slight groove round outside.

PLATE XII.

Fragments with White Slip and Matt Black Designs (Sect. 7).

1-18. Fragments of flat, spouted vessels like XI. 7-8, of various sizes. The patterns on 3 and 15 are in *brown* (see p. 104).

20. From a vase like XI. 14.

22, 23, and perhaps also 24 and 26, are parts of beaked jugs. There are traces of vertical lines on 22 as on XIII. 15.

25, 27-30 are comparatively large and thick. The downward-pointing spike on 27 is not the head of the bird turned backwards, as can be seen from other fragments of the same vase. The object on 28 may be a conventionalized fish.

PLATE XIII.

Pottery of Section 7 and Miscellaneous.

1-8. Fragments of large vessels of the fabric described in Sect. 7. Scale about 1 : 3.

9, 10. From large bowls. About 1 : 3.

11. Same ware as the preceding. The upper part has a black design on a white slip, the lower part is covered with a slightly lustrous red coat. About 1 : 3.
12. For the fabric see p. 152. Part of beaked jug with handle stuck through; purplish clay with rather dull black coat and white paint. About 1 : 3.
13. From large vessel with broad rim; red clay and chalky white slip; design in red and black, a line of red between two of black, both colours being matt and powdery (quite different from the ware of Sect. 10). About 1 : 4.
14. Same ware as 1–8. Scale about 4 : 9.
15. Same ware as 12. From a beaked jug; brown surface and white paint. About 1 : 3.
16. Conventionalized man? About 4 : 9.
17. Slightly lustrous surface, red to left of the two vertical lines and black to right. The head is in profile; two short lines (not fully visible in the reproduction) project downwards from lower part of face as in the later geometric style (cf. *Jahrbuch*, 1899, p. 85, Fig. 44). Scale 1 : 3.
18. Same class of ware as 17; white design on brown coat. The figure apparently has a short sword in his girdle.
19. Same ware as 12 and 15; coarse, red clay with surface varying from black to red. Hands of same type as on 17. Design above handle consists of a circle filled by three vertical lines. Height 26 cm.

PLATE XIV.

Beaked Jugs, and Fragments of similar Vases, of the Class described in Sect. 9.

1. Ht. 265 mill. Spiral chain round neck, dotted rosettes on breasts, double spirals (cf. No. 10) at intervals round body, band round foot.
2. Height 365 mill. There is another griffin below handle.
3. Scale 1 : 3. Beaked jug.
4. Scale 1 : 4.

6 *a*, *b*, *c*. See p. 109. Scale of *b* and *c* about 1 : 3.

7. Fragment of beaked jug. 7 : 15.
8. Beaked jug. 1 : 4.
9. From a beaked jug. 7 : 15.
10. From below handle of beaked jug (cf. No. 5). Scale 7 : 15.
11. Fragment of a jug. 6 : 13.
12. Fragment of jug with broad flat rim. 6 : 13.

PLATE XV.

1–16. Fragments of rather shallow cups (Sect. 9, No. 4). 15 and 16 belong to class (*a*), 7, 8, 9, 11, 13 to (*b*), and 1, 2, 3, 4, 10, 12 to (*c*). 15 has two impressed dots beside base, and part of a small incised mark is visible on 6. 9 has a design on the inside as well.

17–20 are specimens of the round-bottomed bowls described in Sect. 9, No. 4. 19 is of the same ware as the others, but has a slightly lustrous black coat, and the design is painted in white.

Scale :— 1, 2, 3, 4, 7, 10, 12, 13 = 6 : 13.
5, 6, 8, 9, 11, 14 = 7 : 15.
15, 17 = 1 : 3.
16 nearly 1 : 2.
18–20 about 1 : 3.

PLATE XVI.

1–10. *Panelled Cups* (*Sect.* 9, *No.* 5)

1. Note mark on edge of base.
3. Frieze of bucrania (cf. Pl. XV. 13).
6. Light brown ground-colour on panel; white spots.

7. Pattern goes right round; border round top and bottom of same brown pigment as on 6.
8. The second of the four bands is of a reddish colour.
9. The corner ornaments are red.

11–21. *Flat Cups* (*Sect.* 9, *No.* 4, *d*).

13 has a cross, and 14 has three dots impressed on base. 16 Animal representation? For 20 and 21 see p. 114. 21 has impressed mark above base V.

Scale: — 1, 3–7, 9–14, 20, 21, about 1 : 3.
2, 15–19 = 6 : 13.
8 = 2 : 5.

PLATE XVII.

Fragments of Panelled Cups (*Sect.* 9, *No.* 5).

30. The horizontal bands are red.

PLATE XVIII.

Fragments of various vases of the class described in Sect. 9. 15 and 20 are very like the ware of Sect. 10. 21 is part of a large flat lid. 17, 22–25 are specimens of the class of pottery mentioned on p. 118.

PLATE XIX.

1–5. Fragments of large bowls with flat bases (Sect. 9, No. 3). The subject represented on 3 is a frieze of fishes. Note the three small leaves inside the top of 4. The central circle in 5 is painted red.
6. Small, unperforated ledge-handles.
7. See p. 117.
8. Red, rather coarse clay, greenish white slip and matt black paint (not like the ware of Sect. 9); part of a globular vase with spout projecting from shoulder.
9. Normal specimen of the type described in Sect. 9, No. 8.
10. Grasses red and black alternately; cross-hatchings on base.

PLATE XX.

Fragments of 'Black and Red' Ware (*Sect.* 10).

1. Horizontal band and the outer vertical bands in red.
2–4. Like the ware of Sect. 9, with broad horizontal bands of polished red.
5. Red disks (polished).
6. Red stem (polished).
7, 8. Red disks.
9, 10. Red horizontal band.
11. Shape of plant not clear; the small globes are red.
12. Disk yellowish brown; thin paint with scarcely any lustre.
13. Disk red.
14. Disks red (polished).
15. Black outlines, filled in with red.
16. Purplish stem.

PLATE XXI.

'Black and Red' Ware (*Sect.* 10).

1. Bird on each side, separated by conventional trees with spiral branches. Stem of tree red; body of bird red with black outline. Festoon pattern round inside of mouth; ring round root of handle. The neck feathers of one bird have spiral ends, those of the other are straight. Three small indentations on base. Whitish slip, baked red in places. The red paint varies to brown and has scarcely any lustre. Hand-made. Height 26 cm.

2, 3. Parts of monstrous animals? Black outline filled with polished red.
4. Frieze of pomegranate trees. Fruit and lowest band round base are red. Black spots round neck above spirals. Clay, slip, and paint like No. 1. Probably hand-made.
7. The black spots are continued over the red part of the design. Subject undetermined.
10. Purplish red with traces of polishing.
12. Beaked jug with flat handle.
13, 14. Part of same vase: the disks are a purplish red.
15. Fragment of pithos with perforated ledge handles. The same pattern continues right round. Disks, as usual, red. Scale about 1 : 6.

PLATE XXII.

The Fisherman Vase (*B.S.A.* IV. Pl. II.).

Thick, light-coloured clay, baked red in places; whitish clay, also red in places; design in matt black and slightly lustrous brown (more or less red according to its exposure to the heat). Figures outlined in black and filled in with brown; band on each side of moulding brown; all other details black. The loin-cloth is a shade lighter in colour than the adjacent flesh, but this may be accidental. The eye of *c* is defined by a narrow inner line as well as the outer border, but there is no trace of an inner line on any of the others. The eyes are not painted white but merely left in the colour of the ground.

PLATE XXIII.

Vases with Flowers in Black and Red (*Sect.* 12).

1. Design in matt black and brown-black glaze, not very lustrous. The cross-hatched borders are in matt black; the grasses, border round base, and wavy lines round mouth and shoulder, in glaze-paint. The flowers on the spout are in matt black, with subsidiary details in glaze-paint; in the case of those on the body of the vase the order is the reverse. Brown band round inside of mouth; circle round base and band across (in brown). Height as restored 18 cm.
2. Inner details of flowers in red, all the rest of design in matt black. Wavy line down back of handle and ring round root; line round top of rim; band round base; two cross lines on base. Height 11 cm.
3. Design in matt black and slightly lustrous reddish brown. Cross-hatched bands and small dots of the dotted rosettes in matt black, the other details all in brown. Band round inside of mouth. Height 19 cm.
4. Row of dots between two lines round shoulder; small tufts at the roots of the flowers; small mounds round base as on 1 and 7. Stamens of flowers and dots round shoulder in slightly lustrous red; all other details in matt black. Marks of rapid turning as on 1 and 3. Height 16 cm.
5. Point of beak slightly curved; lump on throat; two impressed dots on base. Stamens in brown-black glaze, all other details in matt black. Wavy line down back of handle and ring round root. Height 21 cm.
6. Neck of jug like 1 and 3; main parts of flower in matt black, minor in lustrous brown; brown band round mouth and black cross-hatched band across foot of neck. Scale 5 : 11.
7. Small holes at top and bottom. Design in black and red, the main parts of the flowers, the cross-hatched bands, the dots, and the projections between the spirals being in matt black. Height 335 mill.

PLATE XXIV.

Miscellaneous.

1. Hollow foot and sieve-bottom. Design in matt black and slightly lustrous brown; the broad bands are brown, the narrow lines and cross-hatchings are black, the leaf-shaped objects are black and brown alternately, and there is a narrow black line on each side of the two principal friezes. Height 162 mill.

2. Design in lustrous paint; no sign of wheel. Height 165 mill., breadth 22 cm.
3. Upper part of design in matt black; broad band below in brown. Nearly 1 : 2.
4. The horizontal band, the group of dots, and the outer of the curving lines are red; rest of design matt black. Nearly 1 : 2.
5. Band at top and outer of curving lines are reddish brown; rest of design matt black. Nearly 1 : 2.
6. Apparently matt black paint but injured by salt. Subject undetermined. About 1 : 3.
7. Side of small vase; grey clay, whitish slip, black paint; hole through mouth. Nearly 1 : 2.
8. Kamáres ware. Height 25 cm.
9. Red coat with slight lustre, white paint. From a large vessel. Nearly 1 : 3.
10. Kamáres ware (see restoration, Fig. 130).
11. Firm red clay (not Melian) with smooth surface varying from red to black; strips of white with line of black down the middle; lower end of handle stuck through wall; three slight indentations on base. Height 25 cm.
12. Same ware as globular jugs from shaft-graves at Mycenae; black outlines, red filling. About 1 : 2
13. See p. 154; polished red coat, white paint. About 1 : 3.
14. See p. 153; polished red coat, white paint. About 1 : 3.
15. Dark red clay with slip baked reddish; matt black paint; hole in each circle and cross in largest; no opening at top. Found in fairly early deposit.

PLATE XXV.

See Section 13.

1. Usual clay and slip; paint varies from black to red; dots and interspiral ornaments in matt black. Height 12 cm.
2. Paint reddish brown. Height 115 mill.?
3. Covered with red coat. Height 125 mill.
4. Usual clay and slip; paint varies from brown to red; dots, cross-hatchings, interspiral ornaments, and wavy line just below main frieze, are in matt black; coat of red inside. Height including handle 353 mill.
5. Similar to 4, except that the glaze is somewhat redder; similar accessories in matt black. Height including handle 345 mill.
6. Lustrous red paint; band below neck, dots and interspiral accessories in matt black. There is a row of dots between the lowest bands, scarcely visible on the illustration. Height 15 cm.
7. About 1 : 3.
8. The broad bands are in lustrous brown, the dots and the cross-hatched band in matt black; spiral on base (in brown). Height 82 mill.
9. Rather coarse ware; design in slightly lustrous red or brown.
10. Lustrous brown paint of uneven hue; base like Pl. **XXIX.** 11. Height 95 mill.
11. The rim is flat; lustrous red paint. Height 6 cm.
12. Design in matt black with a strip of red midway between the leaves; red coat inside. Height 9 cm.

PLATE XXVI.

Large one-handled Cups (*Sect.* 13, *No.* 4).

1. The horizontal bands are in light brown (with very little lustre), the lines defining the spirals are in matt black. Hole in base. Height 13 cm.
3. Design in dark red; the curving ornaments on the body of the vase are bordered by thin strips of matt black.
4. Blackish brown paint; broad cross on base. Stud on handle and hole in base. Height 115 mill.

5. The wavy lines and two of the lower bands in matt black, the rest in red. Height 105 mill.
6. Reddish brown paint; stud on handle. Height 10 cm.
7–11. Specimens of designs on bases.
12. Dots in matt black.
19. Same arrangement of colours as on XXIV. 4.
25. Dots and festoons in black.
28. Dots and spokes in black.
29. Dots and intermediate band in brown, the rest in matt black.

The designs on the remaining fragments are entirely in lustrous paint.

PLATE XXVII.

Vases described in Section 13.

1. Red paint without black accessories; wavy line round outside below rim. Usual holes through top and bottom; small projection below rim on each side. Height 32 cm.
2. Heavy, coarse ware; brown paint without much lustre. Height 27 cm.
3. Has had a high, flat-shaped handle with studs at upper end; broad rim with indentations round edge; usual brown paint; plain bands round outside.
4. Plain ware; projection between each pair of handles. About 1 : 3.
5. Has had a second handle; design in red and matt black, the dots and interspiral ornaments being of the latter colour. Height 205 mill.
6. Handmade or very rudely turned; small unperforated handle on each side of rim; spout merely pinched out There is a row of dots below the spirals; these and the ornaments between the spirals are in matt black, the rest of the design is red. About 2 : 9.
7. One handle only; paint brown. Height (not including handle) 25 cm.
8. Dark red clay with shimmering particles; not painted. Height with handle 25 cm.
9. Same ware as 8; whitish slip and slightly lustrous black paint. Height with handle 21 cm.
10. Flat rim with small handle on each side. Design in red and black. About 1 : 3.
11. Brown paint; rings of brown round inside. Diam. 185 mill.
12. Horizontal handle behind; no bridge across inner end of spout as on XXV. 1–6. Brown paint. About 1 : 5.

PLATE XXVIII.

See Section 13.

1. Lower part of a vase; paint brown.
2 (*a*) and (*b*). Perhaps from two different vases; design in red paint.
3. Lower part of vase; paint brown.
4. Paint brown.
5. Neck of a vase; red paint; surface rubbed.
6. Bright red paint.
7. Rather lustreless brown paint; horizontal handle broken off.
8. Surface injured; paint originally red or brown.
9. The narrow lines are in matt black, the rest in red.
10 (*a*) and (*b*). Part of same vase; design has been like that of 16; lustrous brown paint with white dots along stems of branches.
11. From body of large jug like XXV. 4; rich brown paint; line of white dots above the leaves; surface rubbed smooth.
12. From shoulder of large vase; lustrous brown paint.
13 Paint varies from brown to black.
14. Part of spout; brown paint.
15. Reddish brown paint; perhaps from same vase as 13. (Both fragments may be upside down.)

16. Glossy surface ; paint varies from red to brown ; remains of white dots along wavy line in (*a*) ; red coat inside. The main part of the design consists of conventional trees (perhaps palms with bunches of dates) separated by branches of the ordinary type.

PLATE XXIX.

See Section 13.

1. Large vessel of the later Melian fabric with design in brown black ; the spout is merely stuck on as an ornament, and there is no passage into it from the interior. Height 85 cm.
2. Brown paint.
3. Late panelled cup with same principle of ornamentation as Pl. **XVI.** 1-6 ; design in red and black, the wavy line across middle being black. Height 95 mill.
4. Red and black ; cross-hatchings, dots, ornaments in the triangles, and interspiral details are in matt black.
5. For pattern cf. **XXV.** 1 and **XXVII.** 11 ; red paint.
6. Part of large jug with two friezes of spirals round body ; red paint ; surface rubbed smooth.
7. Blackish brown paint.
8. The narrow lines are in matt black, and the broad horizontal bands are bordered by black strips ; rest of design in reddish brown.
9. From large vase like **XXV.** 1 ; cross-hatchings, wavy lines, and dots in matt black ; rest of design in brown. For the style, see p. 133.
10. Design in brown and matt black ; of same class as the vases on Pl. **XXIII.**

11, 12. No black accessories.

13. Design in lustrous brownish black ; not certain whether right side up.

PLATE XXX.

Baths and Basins (*Sect.* 14).

1. Design in matt black on a whitish slip. Breadth 25 cm.
2. Design in red ; wavy line round outside. Height 24 cm., length 66 cm., breadth 42 cm.
3. See Fig. 112. No black accessories. Height 52 cm., length 1 m. 13 cm., breadth 66 cm.
4. Design in red and matt black, cross-hatchings, petals, and details in the spaces above and below being of the latter colour ; loops outside (in red) ; stud on top of rim and handle as on 2. Nearly 1 : 2.
5. Brown black paint. Nearly 1 : 2.
6. Brown paint with matt black spots. Nearly 1 : 2.
7. Rosettes and details in the spaces above and below are in matt black ; rest of design in red. Nearly 1 : 2.
8. The design is in matt black, and the rest of the ground is painted red. Nearly 1 : 2
9. Design in brown ; wavy line round outside as on 2 ; stud on rim.

PLATE XXXI.

Imported Mycenaean Pottery (*Sect.* 16).

1. Light-coloured clay, brilliant paint.
2. Clay and paint baked red.
3. Brown clay with whitish slip, black paint. Perhaps upside down.
4. Light brown clay with smooth, whitish surface, black paint.
5. Light-coloured clay, yellowish white surface, black paint.
6. Clay and paint reddened.
7. Red clay, light-coloured surface, black paint.
8. Light red clay, smooth surface, black paint.

9. Red clay, whitish slip, deep brown paint.
10. Red clay, whitish slip, paint somewhat reddened ; inside glazed red.
11. Light brown clay, light-coloured surface, black paint ; inside glazed black.
12. Light brown clay, smooth whitish surface, black paint with white accessories (much faded).
13. Reddish clay and red paint.
14. Red clay, somewhat reddened paint ; inside glazed red.
15. Red clay, whitish slip, somewhat reddened paint.
16. Brown clay, white slip, black paint with white accessories.
17. Light-coloured clay, smooth yellowish surface, black paint. Row of flowers.
18. Light brown clay, whitish surface, black paint.
19. Purple clay, whitish slip, purplish paint (from Well).
20. Light red clay, red paint, rather dull.
21. Red clay, smooth white surface, red paint.
22. Light red clay, reddish white surface, brown paint, rather dull. A lid.

PLATE XXXII.

Imported Mycenaean Pottery (*Sect.* 16).

1. Clay and paint baked red : white accessories. From a kylix.
2. Red clay, reddish white surface, black paint.
3. Reddish clay, black paint ; fragment of a filler.
4. Salt-bitten ; band of paint inside mouth.
5. Reddish clay, white slip, black paint.
6. Clay and paint reddened, not much lustre. Part of a monster ?
7. Salt-bitten.
8. Light-coloured clay, yellowish paint.
9. Purplish clay, whitish surface, red paint ; salt-bitten.
10. Salt-bitten. Conventionalized flower ?
11. Light red clay, reddish white slip, red paint. (*a*) and (*b*) are from the outside, (*c*) from the inside (subject obscure), and there are a few other fragments from the same vase.
12. From Well ; reddish clay, brown paint, inside glazed.
13. Reddish clay and paint, polished surface.
14. Grayish clay, black paint. Hinder part of an animal.
15. Coarse black paint, salt-bitten. Neck of bird.
16. Reddish clay, coarse black paint. Spearman ?
17. Like 16.
18. Grey clay, coarse black paint. Long-necked bird.

PLATE XXXIII.

Series of Flat Bowls with Spouts (*Sect.* 15).

1. Remains of white slip outside ; slightly lustrous red coat inside and round top of outside. Two pairs of impressed dots at opposite sides of base.
2. Similar to 1. Mark along edge of base (Table of Signs, F 3, p. 179).
3. Lustrous red coat. Five impressed dots beside base.
4. Lustrous red coat.
5. Surface rather dull. Three impressed dots on base.
6. Reddish brown coat inside, white slip outside. Dots on base (broken).
7. Red coat inside, white slip outside. Impressed dot on edge of base.
8. Similar to 6.
9. Lustrous red coat ; usual white border round outside of rim.
10. Coarse dark clay, nearly black ; white border round outside of rim. Impressed dot on each side of base.
11. Similar to 10 in fabric.
12. Light red clay with whitish surface and band of chalky white round rim. Four impressed dots beside base.

13. Red clay; dark surface inside and white slip outside (?). Impressed dot on each side of base.
14. Red clay, white slip round rim; spout broken.
15. Light-coloured surface.
16. Brown clay and light-coloured slip; marks of wheel; handle not perforated; small pinched-out spout. Two impressed dots beside base.
17. Light-coloured slip.
18. Whitish surface; handle not perforated; small pinched-out spout; conspicuous wheel-marks; impression on base, stroke between two dots.
19. Like 18. Two impressed dots on base.
20. Stud behind (in place of handle) and pinched-out spout; bar of paint across base; coat of red inside.

PLATE XXXIV.

1. See Sect 6, No. 1. Horizontal flutings round neck; mat-impression on base; slightly lustrous coat, varying from black to red, on outside. Height 87 cm.
4. Sect. 6, No. 3. Stud on each side below rim (one broken off); mat-impression on base; coat as on 1. Height 57 cm.
5. Sect. 6, No. 2. Yellowish white slip with dark band round neck; pattern applied in relief; About 1 : 5.
12. Pithos of later period; three handles; coat of red. Height 64 cm.
13. Large pithos of later period with three handles round neck and two below. Broken in transport, and no longer in existence. On about same scale as 12.
14. Pithos of later period with three handles round neck and two below. Height 70 cm.

2, 3, 6–11. Fragments of pithoi and other large ware. 2 is the earliest; 3, 6–8 are of the intermediate period; 11 belongs to same fabric as 5; and 9 is a later fragment with polished red surface. Scale about 1 : 4.

PLATE XXXV.

Miscellaneous.

1, 2. See Sect. 6, No. 10. The spots below rim are dark brown. Height 75 and 70 mill.
3. Small beaked jug of same fabric as Sect. 6. Horizontal impression at top of handle. Height 14 cm.
4. Similar to 2. Mark on handle (Table of Signs, E 9, p. 179); two vertical incisions beside base; spots as on 1, 2. Height 14 cm.
5. Plain pot with studs round neck. Probably of intermediate period (found in J2 at 3½ m. depth). Height 14 cm.
6 and 9. Small jugs of later period (note the change in type from 3 and 4). Height 8 and 9 cm.
7. See Chap. VII. p. 210. Height 75 mill. breadth 9 cm.
8. See p. 158. Height 85 mill.
10. Fairly early; mat-impression on base. Height, including handle, 75 mill.
11. Same type as 6; mouth partly sealed up; stud on top of handle. Height 115 mill.
12. See p. 158. Height, including handle, 62 mill. Light red clay, well baked.
13. Small holes through sides; reddish-brown clay. For general shape cf. Sect. 6, No. 11. Height 115 mill.
14. Heavy vase of dark red clay with shimmering particles. Same scale as 15.
15. Vertical impression beneath root of handle. For general shape cf. XXV. 9. Height 153 mill.
16. Plain amphora of early Mycenaean period. Height 47 cm. An incomplete vase of same shape had a large spiral pattern in matt black.
17. Ordinary type of tripod cooking pot. Height 225 mill.
18. Large vase of later period; ledge-handles not pierced. About 1 : 5.

PLATE XXXVI.

Specimens of the ordinary, unornamented ware of the later period. 1 and 2 are flat saucers. 3 is an example of the commonest kind of cup, thousands of which encumbered the site. 4 is covered with a coarse black coat in imitation of metal. 5 is a specimen of "Liliputian" ware, not nearly so common at Phylakopi as at Hissarlik.

6. Brown paint round rim.

9 and 13 have flat rims (cf. 2).

11. Coat of red; has had a loop handle attached horizontally.

16. Rim flattened inside and covered with light coat of brown; has had similar handle on other side.

Scale not uniform but approximately 1 : 3. C. C. E.

FIG. 149.—CRETAN WILD GOAT (*Capra aegagrus*).[1]

[1] Mycenaean technique; yellow clay; greenish slip; design in lustrous black; the hatched parts orange-red. The rocks before and behind the goat's head may be compared with those in the Flying-fish Picture (Pl. III.). See p. 145.

CHAPTER V.

THE POTTERY MARKS.

A.—Occurrence of the Marks.

The accompanying table (p. 179) contains a fairly complete list[1] of the impressed marks which were mentioned cursorily in Sect. 5 of the preceding chapter. Except in a few cases the diagrams are not intended as facsimiles of the originals but merely as representatives of the various types.

All the signs included in the table have been impressed in the damp clay before baking, whereas those reproduced on p. 180, and also the sign-group, Fig. 155, p. 183, have been simply scratched on the hard surface of the finished vase. This distinction ought to be kept in mind. The signs of the former class were certainly made by the potter, while those of the latter class

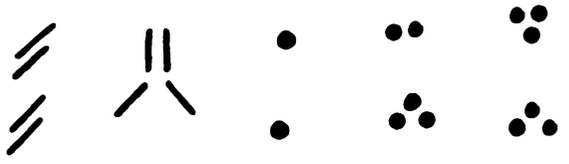


Fig. 150.

were more probably added by the owner after the vase had come into his possession. The scratched signs, which are comparatively scarce, occur on various kinds of pottery and are as a rule later than the impressed marks. I shall leave them out of account for the present and return to them later on.

The fabrics on which the great majority of the impressed marks occur are the geometric wares of Sects. 6 and 7 (pp. 96 ff.). There are certain parts of vases for which they have a decided preference. One of the likeliest places for

[1] The signs in Fig. 150 have been omitted by mistake from the table. The last three, like J 11, are on opposite sides of vase-bottoms. The list of dot-groups might be increased indefinitely if one were to distinguish between the various ways in which they are grouped together. As many of the signs copied are on very small fragments, it is quite possible that some of them may be represented upside down or wrong way round: certain differences between the present list and that of Mr. Hogarth in *B.S.A.* vol. iv. are to be explained in this way. It is also possible that one or two items in the list, especially I 11, are not pottery marks at all but are part of the decoration of the vase.

finding them is on suspension-handles like those of Pl. **VII.** 1, usually on the top but sometimes on the edge and sometimes along the two sides of the edge.[1] Another favourite spot is on the handles of the beaked jugs; as will be seen from the details given below, there are several instances of the same mark occurring on jugs both of Sect. 6 and of Sect. 7. A third place where one frequently comes across them is on (or close beside) the bottoms of vases, especially those of the earlier bowls described in Sect. 16, and it seems to have been a very common practice to place a pair of corresponding marks on opposite sides of the base, *e.g.*, E 5–6, J 11. Sometimes but more rarely they are found on the throat and other parts of the body. They are by no means confined to painted vases, a good many of them occurring on the handles and sides of tripod pots and such-like coarse ware. Whether all the inscribed fragments of this coarse ware are of the same period as the geometric vases I cannot say with certainty.

Of the signs that occur on vase-bottoms by far the most common are the round dots J 6–11. (The examples given in the table are only specimens of the various combinations in which the dots are grouped, and probably if we had a greater number of entire vases we should find groups of more than five dots.) They are most frequently met with on the geometric cups of Sect. 7 and the flat bowls of Sect. 15. But whereas the *linear* signs are scarcely ever found on the later fabrics, the dot signs continued in common use in the early Mycenaean style. They are specially characteristic of the ware of Sect. 9, such as the flat cups, Pl. **XVI.** 11–21, and the cups with panelled designs, Pls. **XVI.**, **XVII.** Sometimes also the pottery of this period bears traces of rather coarse marks painted in powdery red on the outside of the base. A 4, B 15, E 5, E 7, G 10, I 4, J 12, and J 13 are almost the only *impressed* linear signs that I have observed on the post-geometric painted pottery.

Two or more examples of the same sign are frequently encountered, though it is noticeably among the more simple marks that we find the greatest number of replicas. In many cases duplicates of the same sign occur on different vase-types and even on vases of different fabric. The following list will show how the impressed marks (exclusive of the dot signs J 6–12) are distributed among the chief groups concerned.

Beaked Jugs of Sect. 6.—A 1, A 3–6, A 10–12, B 2–3, B 6–8, B 12, C 3, D 8–10, D 14, E 2, E 7, E 9–15, F 1, F 5, F 9–10, F 15, G 1, G 4, G 7, G 9–10, H 2–3, H 5, H 7, H 11, I 3, I 5.

Beaked Jugs of Sect. 7.—A 1–2, A 4, A 11, B 2, B 7, B 15, C 4, E 12, F 5, G 5, G 7, G 10–11, G 13, H 2.

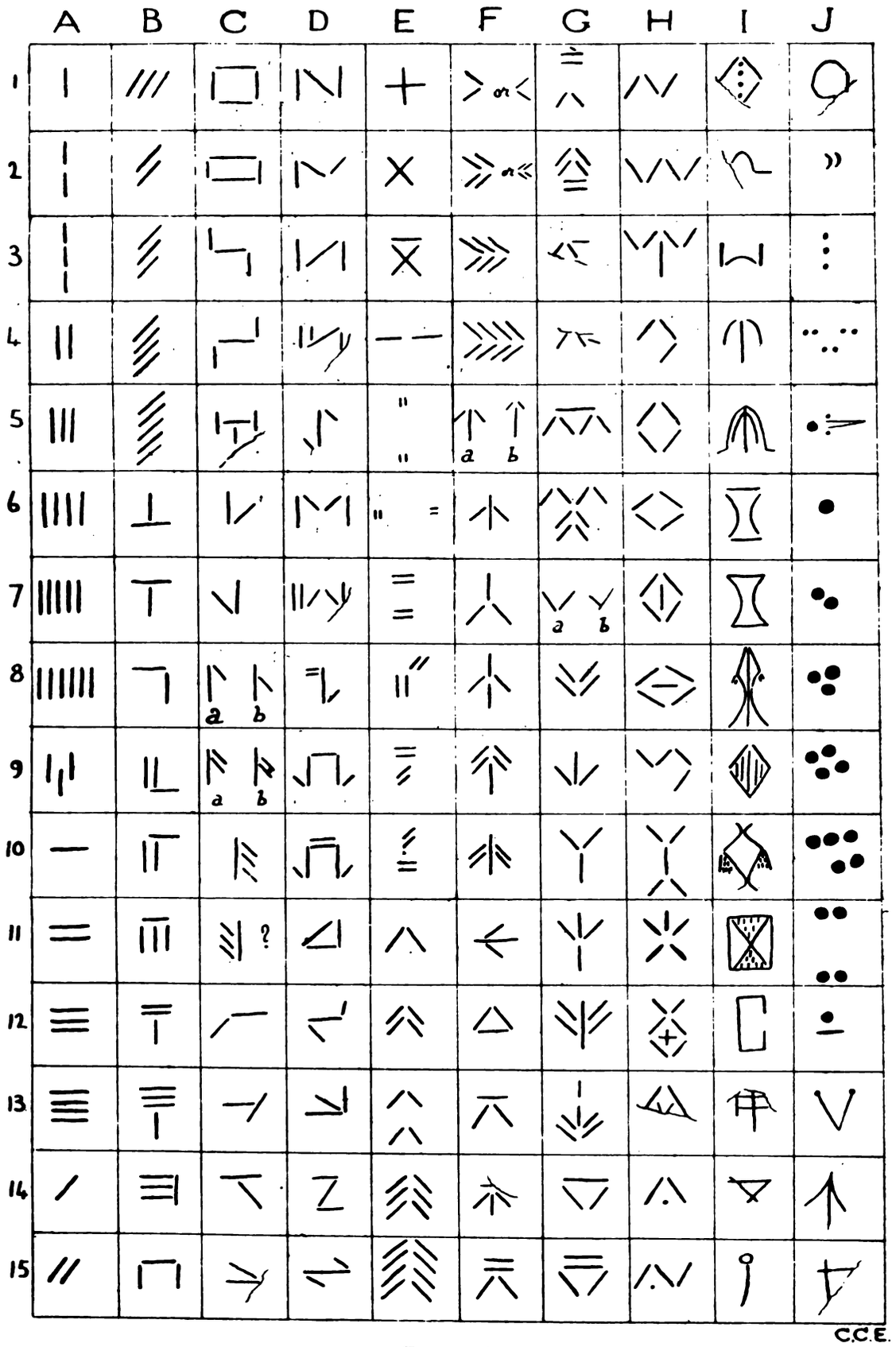
Suspension Handles of Geometric Period.—A 1, A 4–13, A 15, B 1, B 6, B 14, C 1–2, C 6–7, C 13, C 15, D 1, D 11, D 13, D 15, E 1–2, E 4, E 8, E 11–12, E 15, F 1, F 3–5, F 11, G 15, H 1–2, H 6, H 8, J 2, J 4.

Geometric Ware with Designs in White.—A 1–2, A 13, B 7, C 12, E 11, F 10, J 3.

Other Vases of Geometric Ware.—A 1–2, A 13, B 4–5, B 9, C 10–11, D 3–5, D 7, D 12, E 3, E11, E 14, F 5, F 7, F 10, G 6–7, G 10, G 14, H 2–5, H 7, H 9, H 12, H 14, I 1–2. I 6–11.

Flat Bowls of Sect. 16.—A1, A 5, A 11, B 7, B 10, B 12, D 2, E 1, E 5–6, E 12 (or F 2), E 13 (or F 3), F 5, G 7, J 2.

[1] *e.g.*, F 1–4.



C.C.E.

TABLE OF SIGNS. N 2

Tripod Pots and Similar Coarse Ware.—A 1-2, A 4, A 6, A 11-12, A 14-15, B 7-8, B 11-13, B 15, C 5, C 8-9, C 14, E 1-2, E 9, E 11-12, F 5-6, F 8, F 12-13, G 2, G 7-9, G 12, H 1-2, H 5, H 7, H 10, H 12-13, H 15, I 4, I 12-15,[1] J 1, J 3, J 5, J 15.

Loom Weights.—C 5, E 11, J 14.

Painted Ware of Later Period.—See above.

Apart from the few more elaborate symbols which may be pictographic the linear signs consist almost entirely of various combinations of the four strokes | — / \. It will be observed too that they run more or less in series, *e.g.*, E 11–15, G 9–13, H 1–3. The object which they served can only be guessed at. They may be regarded as owners' marks, but in that case, seeing that the marks have been engraved in the unbaked clay, we must assume either that the pots were made by the owner himself or that they were made by special order. Another possibility is that they are the trademarks of the potters. If so, the use of such trademarks can have been by no means a universal custom at the place of manufacture, for many (probably the majority) of the geometric vases are quite devoid of them. Perhaps a good many of them may be merely potters' memoranda. For instance A 1–8 and A 14–B 5 might have been used by a potter to record the number of vases that he or she was turning out at a sitting, just as the illiterate islander of the present day keeps his accounts by making notches on a stick.

As regards the signs (Fig. 151) which have merely been scratched on

Fig. 151.

the hard surface after the vase had been baked (and possibly after it had been in use for some time), Nos. 3[2] and 4 were found on local ware of the early Mycenaean style. Among the few other signs scratched on similar pottery, A 12 and E 1 were also represented. The second double-axe, No. 5, was found on a fragment of 'imported Mycenaean.' Nos. 1 and 2 occurred on the bases of large cups or bowls with polished black surface and with a slight, profiled foot: the form of the foot belongs to the post-geometric period in Melos (see p. 94). One or two other fragments of the same ware had a plain cross on the base. The interesting sign-group on p. 183, Fig. 155, was likewise found on the base of a similar vase. The second sign-group, p. 184, Fig. 159, shows the remains of three letters firmly impressed in the unbaked clay: the fragment seemed to me to be of Cretan ware, but as Mr. Evans does not recognize the symbols as Cretan this may have been a mistake: at any rate it is certainly not Melian.

C. C. Edgar.

[1] There are several signs on this ware like I 14, more or less carelessly drawn triangles.

[2] No. 3 is incomplete, the vertical line merely representing a break. No. 4 is on the base of a 'black and red' vase.

B.—Significance of the Pottery Marks.

In considering the signs on the Melian pottery we have to deal with four possible categories:—simple marks as of the owner, signs belonging to a definite script, religious symbols, and signs denoting numbers. As the signs as a rule appear in an isolated position it is not often easy to say to which of these categories an individual example may belong, but it is probable that in the majority of cases we have to deal with owners' marks.

The adoption of some simple geometrical combination of lines as a mark of ownership is of course a very widespread practice and it is well illustrated on the prehistoric pottery of Egypt. Such signs however, are often in their origin not mere arbitrary combinations of lines but very rude delineations of objects—such as a child makes on a slate. These line sketches no doubt often represented an object that stood in some near relation to the individual, such as a totem. In this way a kind of common stock of figures of simple geometrical aspect might grow up, from which it became natural to make selections. Certain types might acquire a traditional vogue in connexion with a special employment. There was for instance both in Egypt and in Minoan Crete a repertory of marks used for inlays in porcelain, ivory and other materials which must have been handed down by guilds of craftsmen. So too other signs, such as the cross, the asterisk, and the swastika acquired a symbolic religious value. The survival of these groups of marks or signs of geometrical form is of great importance as supplying a formative influence on later alphabetic development. Where special names were attached to them they may actually have been accepted as signs in definite systems of script.

The most abundant class of signs represented in the Melian pottery must probably be regarded as mere personal marks, the figures being formed of simple conjunctions of lines varied at will (see Fig. 152). In other cases we find a somewhat more elaborate outline, the pictorial original of which may at times be inferred. The double axe which belongs to this category has certainly a religious signification. Finally a certain number of the Melian signs recur in the Cnossian Linear Script. The numeral signs also, so far as they go, correspond with one or other of the Cretan systems.

The signs may thus be grouped under the following categories:

(1) Geometrical marks, either traditional or of arbitrary origin.

(2) Pictographic signs.

(3) Signs identical with those of the Cnossian linear script.

(4) Numbers.

§ 1.—*Examples of Geometrical Marks.*

Fig. 152.

In instances like the above (Fig. 152) we see the changes rung on simple linear combinations.

§ 2.—*Pictographic Signs.*

P. 180, Fig. 151, 4, 5 = Double Axe. This is a sign of the Cretan pictographic script, and is also of frequent occurrence as a symbol of the Cretan Zeus in the Palace of Cnossos.

I 10 and Pl. **VII.** 17—Perhaps a fish. Compare the sign (Fig. 153)

Fig. 153.

Fig. 154.

coupled with two linear characters on a Libation Table found by Mr. Hogarth in the Dictaean Cave.

The early Babylonian pictorial signs for fish (Fig. 154) may also be compared.

I 8—Meaning uncertain.

I 5—Meaning uncertain.

§ 3.—*Signs of Linear Script.*

Of all the signs engraved on the Melian pottery the most important are the pair of characters (Fig. 155) at the base of a vessel of polished

Fig. 155.

black ware. The first of these signs, a cup with a line drawn across the handle, is of a most distinctive form, and it recurs as one of the most common characters of the linear inscriptions on the Cnossian tablets. The second character also forms part of the same linear series.

More than this, the two characters are found frequently together—though written in that case from left to right instead of from right to left as here—in several sign-groups on the Cnossian tablets, which from the determinative Man-sign placed after them can be almost certainly identified with names of persons. It occurs moreover with characteristic female terminations and seems to have entered into the composition of both men's and women's names.

Thus we have (Fig. 156)

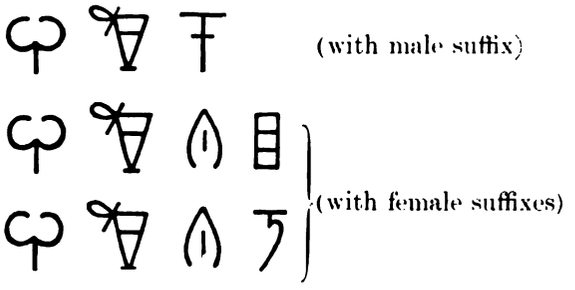


Fig. 156.

On the other hand the two characters in Fig. 157 are found by

Fig. 157.

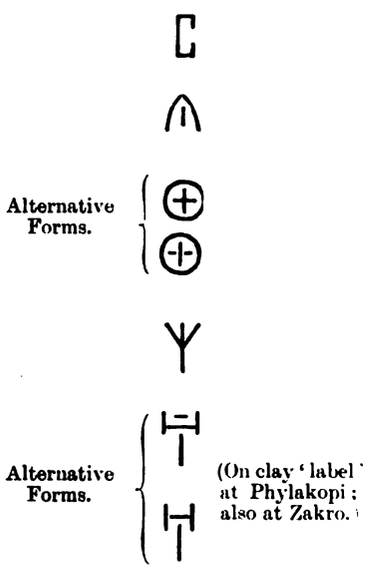


FIG. 158.

themselves, on a seal impression, apparently representing the signature of an official.

It will be observed that the Melian form of the cup sign is more archaic and, in fact, approaches more nearly a form belonging to the earlier class of linear script which is best represented on the tablets of Hagia Triada, and which at Cnossos belongs to the penultimate period of the Palace. The method of writing from right to left, instead of from left to right, is not found in the Cnossian linear inscriptions.

The parallel however is of such a kind that we may assume that the characters on the Melian pot also indicate the name of a man, probably the owner. This remarkable piece of evidence tends to show that a system of linear writing closely resembling that of Cnossos existed in Melos at an early date. We may perhaps further infer the existence of a common language in Crete and in Melos.

The signs in Fig. 158 afford additional comparisons with the Cnossian linear series.

In addition to these there is a somewhat imperfect group of signs (Fig.

FIG. 159.

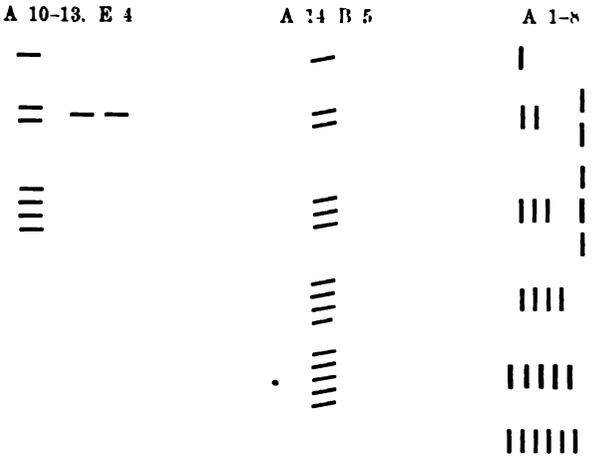
159) which may be taken to belong to some form of linear script though they do not seem to belong to the ordinary Cnossian series.

The same may be said of the group given by Mr. Hogarth in *B.S.A.* iv. p. 12, Fig. 1:

§ 4.—*The Numbers.*

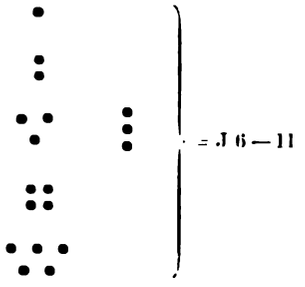
The numbers seem to belong to two classes; one of these consists of upright slanting or horizontal lines, the other of dots or pellets.

THE LINEAR NUMERATION.



On the Cnossian linear tablets the horizontal lines = tens, and the upright units,—thus $\equiv = 30, \equiv| = 31, — ||| = 13$. In the present case however they are not combined and possibly therefore all must be taken as units.

THE DOTTED NUMERATION.



Dots occur in the same way as part of the numeration of the Cretan pictographic tablets, where they seem to represent tens.

ARTHUR J. EVANS.

CHAPTER VI.

THE BRONZE STATUETTE.

[PLATE XXXVII.]

OF objects in metal it was hardly to be expected that the yield at Phylakopi would be large. In this class of material the most interesting instance is the statuette discovered in 1897 and published in *B.S.A.* iii., Pl. III, p. 26.[1] In view of its importance, and of the fact that the illustration there given is scarcely adequate, it has been thought well to reproduce it again on a somewhat larger scale (its natural size) in this volume.

It was found between two stones in the east wall of room C 5 : 7, at about half a metre from the surface; as there was no evidence to show that this position was not entirely fortuitous, we cannot rely on this circumstance as a proof of the primary purpose of the statuette. Nor does the figure itself offer much assistance towards determining this point. Even the sex, as I have already (*loc. cit.*) pointed out, is not altogether certain; although at first sight the narrow curving sides and the beardless face suggest a female figure, the general proportions, which are carefully modelled, are those of a man; and in the marble xoana, to which this is most closely allied, while the characteristic modelling of the feminine figure is carefully rendered, the hair of the male face is never indicated. We may therefore I think accept this statuette as representing a male figure. In our statuette the hair of the head does not appear to have been modelled; perhaps it may have been indicated by fine engraved lines which owing to the decay of the metal are now no longer visible: in the Amorgos marble head figured in Ridgeway, *Early Age of Greece*, p. 51, Fig. 26, the hair is very slightly, if at all, in relief, but is indicated by a series of engraved lines radiating from the centre of the scalp. This method might easily have grown up in the first stages of sculpture in marble, and its occurrence in our bronze would be an additional evidence that this latter is the work of an artist accustomed to the marble technique: for obviously, assuming that our figure must have been first modelled in clay, the attachment of a raised surface indicating the hair should have presented no difficulty.

The gesture of the arms again, which now suggests the attitude of a boxer

[1] It has since been figured from the same blocks, in W. Ridgeway's *Early Age of Greece*, p. 55, Fig. 29.

preparing to spar, with a curious suggestion of the Venus de' Medici, is not a point on which much stress can be laid, inasmuch as the arms have almost certainly been bent out of the position in which they originally stood. The same thing applies I think equally to the bronze figure in Berlin[1] and still more to the leaden Kampos statuette: it looks very much as if in all three cases the arms had been originally held in much the same attitude: the present variation being due to the varying degrees of ill-treatment which each has undergone. This attitude is only the natural first advance towards freedom of movement after the detachment of the arms from being merely indicated in relief on the body; and it is wasted labour to discuss (as Perrot does) fantastic explanations of the gesture of the Berlin bronze, for instance as marking "la clairvoyance d'une déesse qui lit dans le cœur des hommes," and so on.

The whole question indeed of the identification of these figures seems to me to require more careful consideration. It has been too much taken for granted that they, as well as the marble xoana, necessarily represent divinities. In view of recent discoveries in Crete, the possibility of sculptured deities or votaries must of course always be kept in view, but there is a danger of reading too much symbolism into details which are often merely the expression of the sculptor's inexperience; in this way, I am sure, too much has been made of the gesture of hands on breasts of the nude female statuettes; in most cases it has absolutely nothing to do with symbolising "l'éternelle fécondité de la nature;" this suggested association of these primitive crudities with a purely Oriental train of thought is as yet entirely unwarranted.

If we must look for any foreign influence at all, the most natural to expect (as we learn from Crete) would be that of Egypt, where, as early at least as the first dynasty, the custom prevailed of making small portrait statuettes of individuals.

On the evidence before us, it is difficult to decide whether the statuette was of local fabric or imported. Considering the small number of bronze objects found at Phylakopi, the probability of its being of local fabric does not seem great. If imported, the natural suggestion is Crete, which island probably was paramount in the southern Aegean during the Phylakopi period, and with which, as we know from the Kamáres pottery found here, Phylakopi was in communication. On the other hand, the marble *σανίς*, with which type as I have tried to show (*B.S.A. loc. cit.*) this bronze shows decided relation, has as yet been rarely discovered in Crete: and while Crete has proved fertile in marble vases, these are usually of a character more or less variant from the Cycladic type; but further researches there may bring more to light.

In illustration of the transference of the marble *σανίς* technique to other materials, I give here (Fig. 161) an illustration of a solid terracotta statuette from

[1] Perrot and Chipiez, vi. pp. 749 and 754-5, Figs. 349-50. Perrot, p. 751, describes it as "un geste rituel dont la signification nous échappe." The figure bears a strong similarity to the Cretan, and though its provenance is given as the Troad, it might originally have come from Cnossos.

Cameiros in Rhodes (*B. M. Cat.* B 160).[1] The flat board-like treatment of the forms, and especially the tilt backwards of the head, so that the forehead is horizontal, are plainly characteristic of the marble *σανίς*. The arms (now broken away from wrist to shoulder) have hung at the sides with the hands on the thighs; in keeping with the principle by which the arms develop freedom in art before the legs, they are detached from the torso, and in order to accentuate this, the inward curve of the sides below the thorax is slightly exaggerated, as in our bronze. The legs are little more than conjoined columns of clay, very slightly modelled, which unite below in a lump splaying

Fig. 160.

outward and downward in place of feet. Even so the artist doubts the power of the legs to support the figure, and has backed them to their full height with a projecting support of clay, slightly rounded at the top: from this point to the top of the head the surface is one flat plane. As in our bronze, there is no indication of sex: the neck is elongated, the nose and chin salient, the mouth large with thick protruding lips giving almost a negroid appearance: the ears nearly on the eye-level and far too large. The eyes in the terracotta are represented by large knobs with a slight depression round them: in the bronze (as in the Kampos figure) they are hollow cavities of about the right setting and proportion, and produce a very natural effect.

[1] A bronze statuette of similar style is in the *B. M. Cat.* Bronzes, No. 520.

Whether the legs of the bronze were carefully modelled or not it is impossible now to say, as they (and also the hands) have suffered badly from erosion: but although the parallel with the terracotta is in general style obvious, the bronze is naturally on a far higher level, with a strength and spirit in the modelling which seem to transcend the technical capacity of the artist.

A curious feature is the extreme narrowness of the figure from back to front: it has almost the appearance of having been compressed between the two vertical planes formed by the front and back. It may be doubted whether this is due to inheritance from the *σανίς* technique, or to the habit (which the terracotta shows also) of regarding the back as a flat background on which the form is as it were modelled in relief. In any case, the same peculiarity is found in sculptures of much later date; Holleaux for instance remarks it as a prominent feature in a bronze statuette found at the Ptoïon (*B.C.H.* X, p. 196, Pl. VIII), a figure which in other respects offers a parallel to our bronze.

A characteristic feature is the high elongated shape of the skull: in *B.S.A.* iii. p. 29, I suggested that this might be due to actual dolichocephalism of the model. It is however just possible that the figure may be wearing a high headdress similar to that worn by some of the ivory figures found in 1891 in a Dipylon tomb (*B.C.H.* 1895, pp. 273, 295, Pl. IX), which in other respects offer an interesting comparison with our bronze. If so, the whole form of the headdress is now entirely unrecognizable: but the general condition of surface of the head scarcely seems to warrant this supposition.

The figure is cast solid, and the two pins below the feet caused by the vent holes through which the metal was poured are still preserved; their presence is of course not at all—as Perrot seems to think (vi. p. 753)—an evidence of great antiquity, but is found in all ages of Greek bronze work. It was doubtless found to be a convenience when the statuette came to be mounted.

CECIL SMITH.

[Since the above was in type, I have had an opportunity of seeing photographs of the statuettes found by Mr. Myres in the sanctuary of Petsofà in Crete, shortly to be published in *B.S.A.* ix. Mr. Myres points out that the distinction of sex is clearly rendered in these statuettes; the women are draped, with hair hanging free; the men have only a waistbelt with suspender, but their hair is arranged in a coil vertically above the crown. It seems probable that the Phylakopi figure is male, with the same headdress, also that it is closely allied to the Petsofà figures; and the probability is therefore increased that it was imported into Melos from Crete.—C. S.]

CHAPTER VII.

THE MINOR ANTIQUITIES.

[PLATES XXXVIII.—XLI.]

A.—THE MINOR ANTIQUITIES OF METAL, BONE, IVORY AND STONE.

§ 1. COPPER AND BRONZE.
§ 2. LEAD.
§ 3. BONE.
§ 4. IVORY.
§ 5. FLINT.
§ 6. MARBLE.
§ 7. STEATITE.
§ 8. MISCELLANEOUS OBJECTS OF STONE.
§ 9. SHELLS.

(NOTE.—The finds of Obsidian are described separately in Chapter VIII. The Stone Lamps are grouped with those of Earthenware on p. 209. Dimensions are given in decimals of a metre. Mr. Mackenzie's day-books have been our chief authority for the stratification.)

§ 1.—*Copper and Bronze.*

THREE chisels of the usual narrow tapering Mycenaean type, **XXXVIII.** 1—3, found in the Third City. Two have a straight cutting edge with rounded corners, the other a rounded edge with projecting sides. Lengths ·135, ·134, ·104.

Parts of two knives or daggers. **XXXVIII.** 4, nearly complete, is very thin and has a tapering outline; the butt end is notched at each side; there are remains of two rivets, and traces of the wooden haft are said to have been visible when it was found. The other, **XXXVIII.** 5, is a mere fragment; it has three rivets set in a triangle.

Of four arrowheads the largest, **XXXVIII.** 6, has a leaf-shaped head and a slight central ridge which is produced to form the tang, square in section; near the head the tang is thickened to prevent the head from penetrating too far into the wooden shaft; length ·11. The second, **XXXVIII.** 7, has so marked a midrib that a section of the arrowhead would resemble a cross with equal arms: traces of wood on the tang; length ·033. The next, **XXXVIII.** 8, is a very small head with a barb on one side, the other side forming a straight line from tip to stem; length ·032. The fourth, **XXXVIII.** 9, has a square tang and only a slight midrib; length ·042.

A fish-hook, **XXXVIII.** 10, without barb, the shaft originally bent into a loop; length ·028. Cf. Ἐφ. Ἀρχ. 1899, *πίν.* x. 38 (Syra).

A small pricker, **XXXVIII.** 11, with squared tang and remains of a wooden handle formerly perceptible; length ·055; cf. Ἐφ. Ἀρχ. 1899, πίν. x. 9 and 12, and p. 102, where it is stated that in the tombs of Syra these implements are usually associated with needles; cf. also the supposed tattooing-needle in Blinkenberg, *Ant. prémyc.* p. 49.

Two fragments of quadrangular bars, the longer ·17 in length.

Fragments of a basin of thin hammered sheet-copper with rim and two handles riveted on; probably about ·15 deep and ·30 in diameter; found in room G 3:3 of the Third City.

A small socketed cone-shaped object, **XXXVIII.** 30, with a hole at the apex; length ·04.

A lump of copper waste, and pieces of copper ore adhering to the bottom of a crucible made of very coarse clay, show that copper was smelted

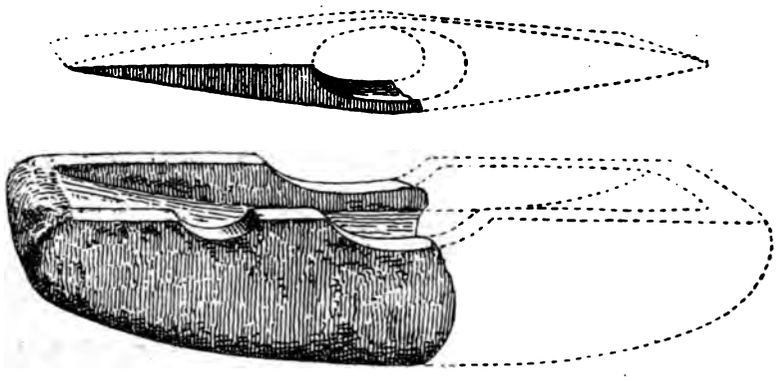


Fig. 161.—Stone Mould, and Axe cast in it (reconstructed).

at Phylakopi. Of the crucible only the bottom is preserved: it was found in J 2 at a depth of 2·20 to 3·20 m.

The process of casting is illustrated by two fragments of moulds. The simpler (Fig. 161), made of coarse-grained micaceous stone, is part of a mould for a double axe. The matrix, is ·065 wide, and, in its present broken state, ·08 long; it deepens towards the centre. The whole fragment measures ·11 by ·10. Two flattish depressions in the lip show where a core was inserted to form the haft-hole; a third near one end is a duct for the metal. It had a cover which may have been lashed. The fragment of a more complex mould, made of argillaceous schist, has four holes along its edge for keying it to the other half-mould, placed at intervals of ·017, alternately large and small; the larger holes contained metal, presumably bronze, pins, which were secured by a running of lead from a groove along the exterior: the smaller holes were sockets for the pins projecting from the other half of the mould. The surviving part of the matrix shows that it was a mould for some flat instrument, probably an axe. It is much injured by fire; length ·06, width ·07.

§ 2.—*Lead.*

A plain solid disc, circular but with part of the circumference cut off, ·16 in diameter, ·015 thick.

Three smaller discs, ·105, ·07, ·053 in diameter, and from ·015 to ·007 thick.

Several flat sheetlike pieces, and fragments of a narrow strip.

Two small whorls, **XL.** 20, shaped like a very obtuse cone with a concave base, one perforated, the other pierced half-way.

We have not been able to identify the 'part of a leaden vessel with incised lines marking the rim,' mentioned in *B.S.A.* iii. p. 12.

The method of mending cracked or broken pottery with lead was illustrated by several fragments of large jars with the lead still adhering, **XL.** 21. A hole was bored near the edge in each of the pieces that were to be joined, the holes were filled with lead, and the fillings united by another thin strip on one or both sides.

In a mould, described in § 1, a running of lead had been used to secure the pins by which the two halves of the mould were keyed together.

§ 3.—Bone.

Several awls or netting-needles of the primitive type common on all early sites, **XL.** 1–5; about ·07 long.

A hollow bone, **XL.** 6, ground flat at one end to serve as a polisher, perhaps for pottery.

Four cylinders, **XL.** 7, ·06—·12 long, highly polished by use; perhaps knife-handles; the tang of the knife would be pushed through and bent over. Cf. Ἐφ. Ἀρχ. 1899, *πίν.* x. 5.

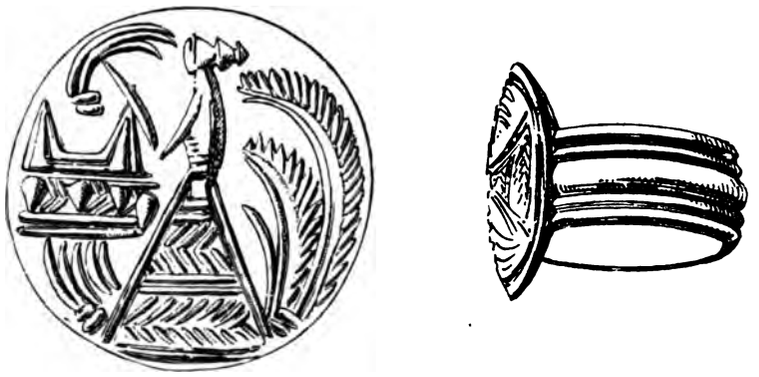
A bone pin, **XL.** 9, ·17 long, with two incised lines round the top. The absence of any head suggests that this was not a pin for the dress or the hair, but a spindle; the incisions at the upper end would serve the same purpose, though less effectually, as the hooked metal cap, the *ἄγκιστρον* of Plato, *Rep.* ix. 616, on the spindles of classical and modern Greece. Such bronze *ἄγκιστρα* were found in the Dictaean Cave, but they have not occurred at Mycenae, where however notched and grooved bone pins, which may have served as spindles, are fairly common. Part of a bone spindle was found sticking in a whorl at Troy, in the remains of the Second City.

A roughly carved cylinder, **XL.** 14, ·03 high, ·033 in diameter, with axial perforation and three bands in relief at one end.

A single boar's tusk.

§ 4.—*Ivory.*

A signet-ring, Fig. 162, probably a woman's, since the diameter of the opening is only ·013. The hoop is finely fluted. On the convex bezel, which



(3 : 1.) (2 : 1.)

FIG. 162.—IVORY SIGNET RING.

is circular and not elliptical as in the case of the gold signets, is engraved a woman standing before an altar. Her hair is knotted behind; she wears a belt and a skirt divided by horizontal lines representing flounces, the spaces between them being filled with chevrons derived from the Mycenaean spray-pattern. Only one arm is seen: it is raised from the elbow in the gesture of adoration. The altar consists of chevrons and irregular ovals, probably representing rough stones; on it is placed a pair of sacred horns. Behind the votary are two conventional trees or palm-branches; the lines above and below the altar represent vegetation. Religious scenes of this kind were favourite subjects for signet-rings; see *J.H.S.* xxi. p. 182 *sqq.* (A. J. Evans, *Mycenaean Tree and Pillar Cult*). Found in H 2 : 14 at a depth of 2 m. (early period of the Third City).[1]

FIG. 163.—IVORY FINIAL. (1 : 2.)

(Right side restored.)

A carved finial which has formed part of some piece of furniture, **XL.** 8 and Fig. 163; length ·096, thickness ·01. The design represents a lily, with sepals which curl over to right and left, growing between two leaves; similar lilies are common in Mycenaean art; the resemblance to the Egyptian lotus-capital (*e.g.*, Petrie *Egyptian Decorative Art*, Figs. 116, 134) may be more apparent than real. The finial is cut square at the base. The holes in

[1] See *B.S.A.* vi. p. 9. In the plan there given, which has a different numbering, the room is 8, not 14. See also p. 266 *infra*.

the upper and lower part of it can hardly be nail-holes; the two faces are carved alike, so it is not likely to have been affixed to another surface: the lower part was not meant to be seen and may have been mortised into some piece of furniture, *e.g.* the back of a chair. Found in G 3:4 at a depth of 1·90 (early period of the Third City).

A plain cylinder, **XL.** 22, very ill-preserved, ·029 long, ·03 in diameter perforated lengthwise.

§ 5.—*Flint.*

Numerous chips and pebbles of the white flint which is found in abundance along the north-east coast of Melos and still supplies the inhabitants with strike-a-lights: **XL.** 13, 18, 19; an arrowhead of yellow, and a flake of amethyst-coloured flint.

Five 'sickle-teeth,' oblong flakes, with one serrated edge, formed out of flat pieces of flint to which the rough outer coating still adheres. **XL.** 11, 12, 15—17. The teeth are polished with use. They were probably set side by side in a wooden sickle; see Petrie *Illahun* vii. 27, and *Kahun* ix. 22, for discoveries of such sickles in Egypt. One of ours, **XL.** 17, has an incised line above the teeth which might give a better hold to the resin used in securing it. Similar serrated flints were found at Troy (*Ilios*, Fig. 665, Dörpfeld, *T.u.I.* Fig. 362), and perhaps in Therasia (Perrot and Chipiez, vi. p. 145).

XL. 17 differs from the others in having a semicircular back; it may have been hafted and used separately; cf. *Ilios*, Fig. 1342, and Dörpfeld, *T.u.I.* Fig. 361 c. **XL.** 10 is a piece chipped into the same form but without teeth.

These toothed flints have considerable sawing power; experiment shows that it is possible to cut wood with them. Mr. Hogarth in *B.S.A.* iv. p. 14, describes them as from 'the surface earth'—consequently Mycenaean.

§ 6.—*Marble.*

Idols of Cycladic type.—(*a*) Seven more or less fiddle-shaped figures flat pieces of marble with rudimentary head and arms; length ·04 to ·08; all found in the eastern region where the excavation was carried below the Mycenaean level. **XXXIX.** 5 is the rudest; though unsymmetrical it has been polished with care; the neck is broken. **XXXIX.** 3 and 7 have a waist; the scratches on the latter represent folded arms (cf. some figures from Paros in the Athens Museum, especially No. 4873); from squares K 2, depth not recorded and H 2, depth 1·50—2·80, respectively. **XXXIX.** 4 and 8, and another broken figure like them, form a distinct and uniform group, perhaps of local manufacture; the type has not been found elsewhere; from H 2, depth unknown: H 3, depth 2·40: and G 3, depth 1·60. There is

also an irregular water-worn piece of marble, with rough projections suggesting arms; length ·11.

(*b*) Parts of four figures of the developed feminine type. **XXXIX.** 1, found on the surface and much weathered, may have come from a tomb; it is headless and measures over ·21: the arms are folded, the separation of the legs indicated by a deep cut. 2, also headless, is the upper half of a large idol of the same type, with arms and breasts better preserved; the left arm, as usual, is uppermost: a groove marks the line of the spine; from B 5, in deposit above the rock and adjoining the obsidian area (p. 11). 6 is a head and neck, thicker and rounder than usual, the nose almost obliterated; ·08 high. There is also a fragment of a body like 2, showing the folded arms and grooved back, ·055 high, ·035 thick: from H 3, depth 2—3·20. The finding of these idols in the houses is a fresh proof that they were used by the living, not made only as funeral offerings for the dead.

Vases.—Part of a jar of coarse grey marble (Fig. 164); on the outside is a raised vertical rib with a perforation; in the drawing a corresponding rib is

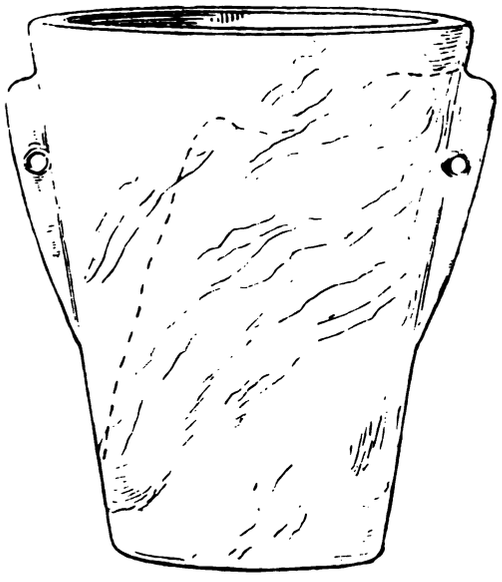


FIG. 164.—MARBLE JAR. (1 : 3.)
(Rim and left side restored.)

restored on the opposite side; height ·20. Like many marble vessels from the Cyclades it has been hollowed on a lathe, but, in consequence of careless turning, the wall varies in thickness. Cf. Ἐφ. Ἀρχ. 1898, πίν. x., Fig. 18. In the Leyden Museum there is a vase of the same shape and made of the same grey marble, one of four marble vessels obtained at Delos by Colonel Rottier about 1825.

Fragments of a cup of veined reddish alabaster with three ledge-handles, Fig. 165, previously picked up on the surface of the Eastern slope, were bought for the British School collection by Mr. Cecil Smith in 1897. It may have had a flat spout on the broken side. Compare the marble bowls with ledge-handles from Syra, especially Ἐφ. Ἀρχ. 1899, p. 98, Figs. 25 and 26.

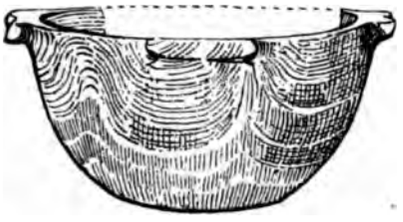


Fig. 165.—Alabaster Cup. (1 : 2.)

Six flat, narrow strips of marble, from ·08 to ·04 long. One which is round in section may be the neck of an idol. Two others, which are rectangular in section (**XXXIX.** 9), seem to have been used as polishers.

Five fragments of shallow marble bowls, found respectively in J 2, depth 4·30—5 : J 1, deep down close to the rock : J 2 : and K 1, depth 1·50. The fragment from J 2 without indication of depth is part of a bowl which has been mended in antiquity; it has two neatly drilled holes for rivets.

An oblong slab of white marble with rounded corners, and edges slightly bevelled, ·16 long, ·12 broad, ·04 thick, was found in G 4 at a depth of only 1·20 m. and must be assigned to the latest settlement. Probably a 'slickstone' used for smoothing and pressing cloth or leather.

§ 7.—*Steatite.*

A considerable number of steatite vessels and fragments were found at Phylakopi, all in the remains of the Third City. The significance of this discovery was emphasised at the time by Mr. Mackenzie (*B.S.A.* iv. 34). 'The steatite bowls of Phylakopi never occur except in the latest deposit of all. The fact that they, with the steatite lamp, were all found at the level of imported Mycenaean ware, points to importation, and their material connects them with Crete, so that in turn one is led to conclude that the other imported Mycenaean ware found simultaneously with them must also have been derived chiefly from Crete.' Subsequent researches have shown that steatite vessels of the forms which occur at Phylakopi are common in the Mycenaean settlements which extend along the coast of Crete from Cnossos eastwards. Two large deposits of native steatite are known in this eastern half of the island, one on the south coast near Arvi, the other in the extreme south of the province of Pediada. As some of the vases from cist-graves at Arvi, published by Dr. Evans in his *Cretan Pictographs*, p. 120 *sqq.*, are composed of the same dark steatite as those found in the coast-cities of Crete and at Phylakopi, it is probable that the manufacture was carried on somewhere in the Arvi district.

At Phylakopi, as in Crete, the most common shape is that of a bowl with thick walls and a disproportionately small cup-like interior. Four

varieties were found, and are shown in Figs. 166—9; where the form is certain fractures have been disregarded. The material is a black or dark-grey steatite with a varying admixture of softer white streaks or patches, and takes a blue-black surface when polished.

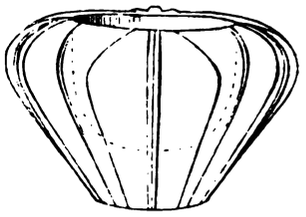


FIG. 166.—STEATITE 'BLOSSOM-BOWL.' (1 : 4.)

FIG. 167.—STEATITE 'BLOSSOM-BOWL' WITH TRIPLE RIBBING. (1 : 4.)

a. Fig. 166.—'Blossom-bowl,' resembling a flower within its calyx. Three incomplete examples from Phylakopi. Mr. Evans has published one from Milato, in Crete, and described another from near Ampelos at the south-eastern extremity of the island (*Cretan Pictographs*, pp. 119, 123). Others occurred at Zakro in 1901, and at Palaikastro in 1902. One from Mycenae is in the Athens Museum. A fragment of another was found yet further afield at Troy (Dörpfeld, *Troja und Ilion*, Fig. 373). For finds at Cnossos, see p. 266.

Two of the Phylakopi examples were found in the passages K 3 : 5 and K 3 : 7 outside a house which yielded only Mycenaean pottery; one lay near the surface, the other at a depth of ·85, while the Mycenaean floor-level is here 1·80 down. The vessels *c* (Fig. 169), and *i* (Fig. 171), and a knobbed lid of green schist of the type described under *j*, came from the same deposit. The third Phylakopi blossom-bowl occurred in the second half-metre from the surface at J 1 : 9, associated with imported Mycenaean pottery, but also with mature native Melian ware such as was not found above the floor-level of the Mycenaean Palace.

A confirmation of the early Mycenaean date of some of the steatite vessels was furnished in E 3, where in adjoining rooms, 15 and 16, at the same depth of 1·80, there were found a native Melian vase with a design of birds in black and red (p. 119, Fig. 91) and the half of a steatite lamp.

b. Fig. 167.—A variant form in which the broad vertical bands are separated by three narrow ribs. One incomplete example.

c. Fig. 168.—A bowl with graceful oblique fluting. One complete example, found in K 3 : 5 at a depth of 1·15.

d. Fig. 169.—A smaller bowl with four horizontal grooves. One complete example. Another was found at Palaikastro in 1902.

Among the fragments of bowls and cups of other shapes there are three which deserve mention because they exhibit characteristic forms of handle. The material is as before.

e. Part of a bowl, like Fig. 114 in Evans's *Cretan Pictographs*, with a raised bar-like handle.

f. Part of a thin-walled cylindrical cup with a knob-handle projecting horizontally.

g. Part of a vase with a vertically perforated ledge-handle.

There are also two noteworthy vases of different material for which Cretan finds offer no precise analogy.

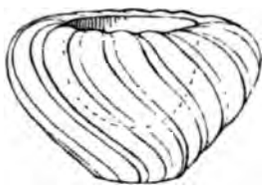


FIG. 168.—STEATITE BOWL WITH OBLIQUE FLUTING. (1 : 4.)

FIG. 169.—STEATITE BOWL WITH HORIZONTAL GROOVES. (1 : 4.)

h. Fig. 170.—A thin-walled hemispherical bowl, complete, diameter ·15, made of a homogeneous green steatite which takes a fine bluish-green surface when polished; soft and easily scratched. The interior is much marked as if by the use of a pestle. Found in J 2, at a depth of 1·60.

i. Fig. 171.—Part of a shallow thick-walled dish with flat bottom and vertical sides. It had a spout, now broken away (restored in drawing) and probably three handles, which were square perforated projections. On the sides is a clumsy ornament of horizontal grooves. The material is a green micaceous schist. Found in K 3 : 7 at a depth of 1·30.

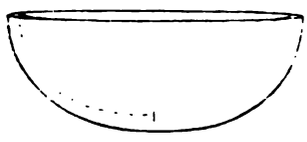


FIG. 170.—HEMISPHERICAL STEATITE BOWL. (1 : 4.)

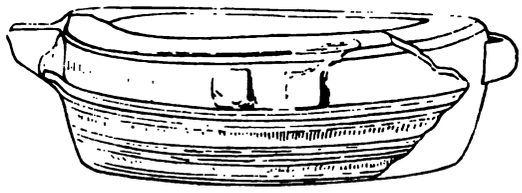


FIG. 171.—DISH OF MICACEOUS SCHIST. (1 : 4.)

j. Several circular steatite lids, mostly of the same material as *a*—*g* above. They are usually furnished with a central knob and resemble the example from Kahun, dated by Professor Petrie to the Twelfth Dynasty and figured in *Cretan Pictographs*, Fig. 120. There is no reason to think the Phylakopi examples earlier than the vases found in the same Mycenaean stratum. Some are without the central knob. One has concentric zones on its upper side, mounting in steps towards the centre.

k. A lid of grey schist, **XXXVIII.** 18, has an incised decoration of seven triangles filled with parallel oblique lines and disposed round its circumference so as to leave a star-shaped space with the knob as a centre. Compare the pattern on a vessel from Syra, Ἐφ. Ἀρχ. 1899, *πίν.* ix. 4.

l. A complete steatite lamp and part of another, found at the same level as the steatite bowls, will be discussed along with the more numerous lamps made of earthenware in a later section (p. 209.)

§ 8.—*Miscellaneous Objects of Stone.*

Celts and hammers of neolithic types were not found at Phylakopi. The nearest approach to a celt is a water-worn pebble of somewhat soft green stone which has been ground roughly into shape. Length ·16, width ·065.

A polished hemisphere of white limestone seems to be a Mycenaean sword-pommel. Round the edge of the flat face runs an incised line, and in the centre of it is a sinking ·015 in diameter. Diameter of the pommel ·056.

Whetstones—One complete example, **XL.** 35, of fine reddish slate, is ·13 long. There are parts of two others like it in shape, of grey slate, and one of grey slate worn very thin and round.

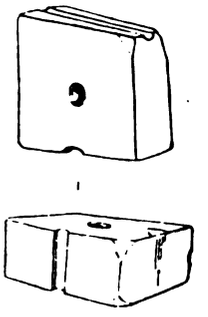


FIG. 172.—GROOVED IMPLEMENT OF SLATE. (1 : 4.)

It is convenient to mention here a block of slate, Fig. 172, measuring ·08 by ·065 by ·038, which has a groove on each of the longer edges, one running lengthwise and the other crosswise, and is perforated through the centre; some cross scratches on one of the short edges look like the beginning of a third groove. Similar slabs of mica-schist were found at Troy (*Ilios*, Figs. 606, 607). The resemblance is noteworthy, since in many respects there is a considerable divergence between the civilisations of Troy and of Melos. Schliemann called them spit-rests. It has been suggested that they were used for sharpening round-edged tools, such as gouges, or for trimming wooden arrowshafts. The principal objection to these explanations is that among the objects of this form found at Troy there were some of clay as well as of mica-schist.

Two irregular lumps of soft white tufa, which have almond-shaped grooves about ·05 long and ·02 deep sharply cut in their upper face, seem to have been used for sharpening tools.

Pestles and mortars formed of a very coarse grit were found in great numbers (Fig. 173); the mortars and both ends of the pestles were often ground quite smooth. Some of the latter are as much as ·12 long. Cf. Perrot and Chipiez, vi. Fig. 21.

XL. 38 represents a very small pestle of fine pink-veined sandstone, in shape a cylinder hollowed round the centre; length ·045, diameter ·035. Others of the same type mostly made of marble have been found on the

Acropolis at Athens (cf. especially No. 7253), in a Bronze Age tomb in Syra (two together, Ἐφ. Ἀρχ. 1899, Pl. x. 36, 37, pp. 100 and 111), and at Tiryns (*Tiryns*, p. 79, Fig. 14); there were three in the Finlay collection, two found together inside a vase in a tomb at Raphinais, in Attica; another, purchased at Athens, is in the Fitzwilliam Museum at Cambridge.

An alabaster rod, much worn and broadening at one end, may have been used for a similar purpose.

There are also some mortar-like vessels of soft pumice; one is hollowed out on both sides; another roughly circular specimen has a rude lip-spout;

Fig. 173.—Pestles and Mortars.

another is oblong and has a hole with a lip below it in the centre of one short side.

Stones pierced or grooved for suspension form a large and puzzling class.

A polished cube of black and white limestone, **XXXVIII.** 31, measuring ·04 by ·04 by ·03, has a perforation through the centre and through each corner, as if intended to be hung by fine strings. Similar cubes of terra-cotta are common on early sites in East Crete and are sometimes explained as loom-weights. Mr. R. M. Dawkins suggests that they may have been used in making rope or twine.

Fig. 174 represents a bell-shaped object of porous trachyte, pierced at the top and slightly hollowed out at the base. Height ·10.

Pierced stone discs were found in considerable numbers. They are generally flatcircular pieces of coarse sandstone, sometimes of pumice, from ·05 to ·10 in diameter, and have been bored from both sides. Sometimes the

edges are bevelled. Cf. *Ilios*, Fig. 1347. Net-sinkers? One example has two perforations.

A truncated pyramid of red and white limestone, with a broad channel cut across the top, may have been a pestle, the hollow in the top being meant to give a grip to the thumb. A similar object in similar material was recently found by Mr. Xanthoudides on a Mycenaean site west of Sitia.

An unperforated disc of white limestone has a groove round its edge resembling *Ilios*, Fig. 84.

The forked object shown in Fig. 175 is made of soft white tufa; the groove round the upper end was intended either for a string or to give the hand a firmer grip. Length ·12.

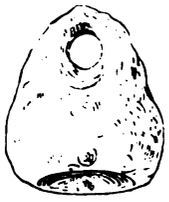


FIG. 174.—PLUMMET OF POROUS TRACHYTE. (1 : 4.)

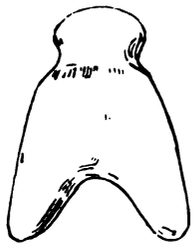


FIG. 175.—FORKED OBJECT OF TUFA. (1 : 4.)

A squared block of pink and yellow veined stone, found in 1897, at a depth of 3·20 m. in C 6, and measuring ·12 by ·06 by ·15, has been identified as porcellanite, a rock which occurs in Western Melos (*B.S.A.* iii. 22). A fragment of a vase made of it was also found. It is possible that it was quarried and exported from Phylakopi. The Athens Museum possesses a candlestick-like vessel, found in a Mycenaean tomb at Nauplia, and the Candia Museum a flat-bottomed basin from Cnossos, of very similar material.

A lump of yellow ochre in the natural state is among the objects brought from Phylakopi to Athens, but has no indication of level attached to it.

Mr. Andrew Cordellas, of Athens, has given valuable help in the identification of materials.

§ 9.—*Shells.*

Among the objects brought from Phylakopi to the Athens Museum are two small triton-shells. For their occurrence and use in Crete see Mr. Evans's remarks in *J.H.S.* xxi. p. 142; it is to be noted, however, that the modern Cretans use them as food.

There are also a number of limpet-shells, 33 in all, with the top of the cone broken away so as to leave a plain ringof shell. They may have been strung together to form a necklace. One of them is shown in **XXXIX.** 10.

B.—The Minor Antiquities of Clay.

§ 1. Human Figures.
§ 2. Animal Figures.
§ 3. Boats, and other Models.
§ 4. Lamps and other Household Utensils.
§ 5. Spindle-whorls and small Objects.

§ 1.—*Human Figures.*

Feminine type with bird-like profile.—Two groups, (*a*) in which the upper half of the body is a disc, and (*b*) in which it is a half-moon; in the former the arms are meant to be folded, in the latter they are raised. Mostly of Mycenaean fabric, yellow clay with glaze paint.

(*a*) *Disc-shaped body, no headdress, eyes in relief.*—One complete, **XXXIX.** 18, and eight incomplete. On 13 and two others a plait of hair on the back is rendered in relief, the plaiting being indicated by oblique strokes. The arms are not indicated at all except on 21, and there only in paint, while the breasts on this and the other figures are modelled in relief; the right hand touches the right breast, the left passes between the breasts. This figure has a scale-pattern on the back; the remainder are decorated from head to foot with wavy stripes.

A large round head, with the mouth marked as a cut across the bird-like beak, must be classed here, but seems to be a local imitation.

A complete figure, **XXXIX.** 22, which stands midway between the two groups, may also be local work. The upper part of the body is as in (*a*), the headdress as in (*b*), the lower part of the body different from either, like a flattened pillar of oval section.

(*b*) *Half-moon body, spreading headdress, often concave on top.*—Three complete, **XXXIX.** 15, 19, and five incomplete. Those with a pillar-like lower part and recognisable arms, 15 and 20, seem older than those in which breast and arms form a conventional half-moon, 14 and 19. The eyes are sometimes in relief, sometimes painted. The gesture of arms raised from the elbows, perhaps signifying adoration, appears in most of the early representations of the human form at Phylakopi.

XXXIX. 16 is the headless upper half of a large figure of this type, originally about ·20 high, with interesting painted accessories. Coarse yellow clay with dull black paint; probably of local fabric. Round the neck is painted a U-shaped triple necklace; parallel to it are U-shaped lines passing below the breasts from shoulder to shoulder, and in the enclosed space near each shoulder a rosette, perhaps representing jewellery; the lower U-lines are continued on the back and seem to indicate the top of the bodice.

XXXIX. 11 is a large right arm in good Mycenaean technique; length ·09; the whole figure must have been over ·25 high. The thumb was modelled

in the round, the fingers bent as if holding some object; five painted bands may represent clothing.

Two male heads. **XL.** 27 is made solid in the coarse greenish clay used for the local pottery. Although much worn the features can be distinguished, retreating forehead, prominent chin, eyes elliptical and incised, slight remains of moulded ears. The hair is treated so as to resemble a close-fitting cap ridged from back to front and surrounded by a thick rim. Found on the surface.

The other, **XL.** 30, is hollow and the upper part is lost. It is covered with brilliant brown-black Mycenaean glaze. The head is round, the face has a curiously pointed profile; mouth and nostrils are incisions; the eye is a flat facet cut out of the rounded surface of the head and pierced with a hole for the pupil, which may have been filled with some glittering substance.

A cone of grey clay with a polished red surface and a hole bored at the top; possibly a phallus; length ·06. Its character is less well defined than that of the phalli figured in *Troja und Ilion*, Beilage 45, Fig. vii.

§ 2.—*Animal Figures.*

(*a*) *Micaceous grey clay with red polish.*—Head of horse (?), **XXXVIII.** 32, trimmed with a knife. The ears and tip of the nose are broken off, but the holes denoting mouth and nostrils remain; the eyes are holes, once perhaps filled; the neck is long, with a hogged mane extending between the ears, and round it is a collar shown as a ridge with incisions.

Headless quadruped, **XXXVIII.** 29; length ·12; probably an ox. Another, **XL.** 34; length ·03.

(*b*) *Dark grey bucchero-like clay.*—Headless quadruped, **XL.** 33; length ·05.

(*c*) *Clay yellow, unless otherwise specified: coarser than the Mycenaean and probably local; dull paint.*

Head of lion, **XL.** 23; muzzle square, mouth hollowed and showing canine teeth, eyes incised, ears well modelled with a sort of crest pointing backwards between them.

Head of ox, once covered with a red wash; square nose with holes for nostrils; the head is hollow and a hole in the forehead communicates with the cavity.

Rump of a quadruped, of greyer clay, same red wash.

Head of ox, **XL.** 24, covered with a white wash; details in dull purple-black paint; the projecting eyes are painted black and surrounded with a circle; two lines cross the forehead and two descend from the brow, meet between the eyes, and then separate, ending at the nose; no trace of ears.

Head of ox, **XL.** 25, covered with a white wash; details in dull red paint; eyes marked by painted circles; a large triangular patch on the forehead with a small hole in the middle; wavy lines down the neck. The

figures to which this and the two preceding heads belonged must have measured about ·20 in length.

Head of boar (?), details in dull red-black paint on white wash; perforated cylindrical snout, high crest, eyes in relief, ears large but broken.

Belly of quadruped, reddish-brown paint on white wash.

Headless pig, XL. 31, with hollow well-formed body; half-way along the back is a round aperture; a marked spinal ridge along the back is continued in the tail, which is turned to one side; reddish surface on which are large spots in dull red paint; length ·08.

Fragment of a cow, Fig. 176, the largest and best-modelled of the animal terracottas. Greenish-yellow clay covered with a white wash, on which are spots of conventional trilobate form in dull purple-black paint. Only the hind-quarters, the tail switched across the flank, the udder, and stumps of

FIG. 176.—HIND-QUARTERS OF TERRACOTTA COW IN NATIVE MELIAN WARE.

FIG. 177.—FOREPART OF TERRACOTTA COW IN IMPORTED MYCENAEAN WARE.

two legs, are preserved. Like the preceding figure it is hollow and has a round orifice half-way along the back. Original length probably ·30, present length ·18. Found in G 3:10 in the Early Mycenaean stratum (Second City) at a depth of 2.40.

Small headless quadruped, XL. 32, cut with a knife out of a similar but greener clay, and adorned with lines of dull purple-black paint. Length ·035.

Two legs, rough cylinders of clay, spreading at the foot, with white slip and dull black painting in lines and splashes; height ·07.

Tail of bird (?), barred with lines of chocolate-brown paint on fine white wash; width ·088.

(*d*) *Fine yellow clay with buff slip and glaze paint; imported Mycenaean.*—Horned head of ox, XL. 29, in good Mycenaean ware.

Parts of nine oxen and four nondescript quadrupeds of the same fabric. In spite of their technical excellence, these figures are decidedly stiffer and less true to nature than the local productions grouped under (*c*).

Head and fore-part of body of ox, Fig. 177. The ears and horns are broken away and the nose, restored in the drawing, seems to have been a mere cylinder; the body is a cylinder made on the wheel, recalling modern toy-horses of wood. Eyes in relief. Red glaze paint used for stripes on face, neck and chest. A small orifice on the top of the head. Height ·17.

There remain two fragments which it is convenient to treat together, though they come from different *strata*. The one shown in Fig. 178 (cp. Pl. **XXIV.** 7) can be completed without difficulty as the head and neck of a bull. It seems to have been closed below, and the nose is pierced: but it is impossible to say whether there was any other opening; possibly this *protome* was a receptacle like the archaic unguent-vases in the shape of animals' heads (for instance *B.C.H.* xix. p. 171, and Berlin Vase Catalogue, No. 1302, bulls' heads with an opening in the left ear). Gritty local clay, coated with a whitish slip; lustreless dark brown paint covers the whole face, excepting

Fig. 178.—Head of Bull (Completed).

Fig. 179.—Head of Bull (Completed).

the flattened and slightly elliptical eyeball; marks of knife-trimming on the throat. Found 2·40 m. below the surface in the square F 3, presumably therefore from the Second City. Height ·09.

The base of a similar head from the Third (or Mycenaean) City is represented in Fig. 179; a round opening at the back, ·02 in diameter, shows that it was not a vase; the ear is the only feature preserved. Reddish-yellow, well levigated Mycenaean clay, covered with yellow slip: no colour. Length ·11.

Compare the *protomai* of bulls represented among the offerings of the Keftiu (W. Max Müller, *Asien und Europa*, p. 348).

Since the above was put into type, a complete bull's head, like Fig. 179 but larger, has been found by Miss Boyd at Gournia, in Crete.

§ 3.—*Boats and other Models*

Boats.—One complete, reproduced in Fig. 180 from *B.S.A.* iii. p. 23, where it is fully discussed; Mycenaean fabric, with black glaze-paint on white slip: a painted eye on each side of the prow and black bands inside and out, repre-

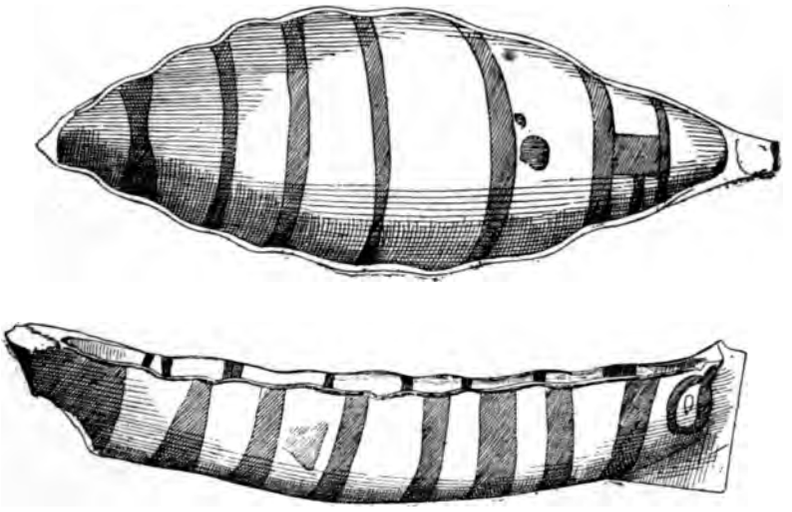


FIG. 180.—TERRACOTTA BOAT. (4 : 5.)

senting the ribs. Mr. Cecil Smith (*loc. cit.* p. 25) interprets it as a boat made of hides or canvas stretched over a wooden frame, the curves of the gunwale

FIG. 181.—MINIATURE STOOL (COMPLETED.)
(1 : 3.)

reproducing the sagging of the cover. It was found at a depth of 2 m. in room C 5 : 8. Length ·127.

The prow of a larger boat, **XL.** 37; it is flat-bottomed; the timbers of the

gunwale unite in a projecting bowsprit; there is a projecting forefoot below the water-line; length ·06, width ·045. Brown paint along gunwale.

Box on feet, Pl. **VIII.** 13, much broken; width, complete, ·09; length, incomplete, ·095; depth inside ·05; total height including feet, ·075. On the end an oblique chequer-pattern, on the sides oblique parallel lines; in each case within a border-line. At each corner a plain square foot. Reddish local clay, white wash, dull black paint.

Fragment of a *miniature stool* or arched stand, Fig. 181; all that survives is part of the top, which is slightly concave and without decoration, and part of one side and one end, which are decorated with designs in dull black over a white slip. The clay is greenish, the technique that of the Second

FIG. 182.—BOX-LIKE VESSEL, WITH THREE ROUND OPENINGS IN THE TOP. (1 : 4.)

City; compare Pl. **XVIII.** 22–25, and Mr. Edgar's remarks on this fabric (p. 118, 9).

The reconstruction attempted in M. Gilliéron's drawing is justified by the position of the ornaments. Rosettes are not uncommon on the pottery of this period, and there are other instances of the swastika and of the arrow-like ornaments, but it is hard to find a parallel for the long-necked long-eared animal (hare ?) on the front.[1] Greatest height ·10, length ·09, breadth ·055.

Fig. 182 represents a mysterious vessel of gritty brown clay, found unbroken in a pre-Mycenaean house, at the east side of the doorway between rooms J 3. 2 and J 3. 7 and at the level of the threshold. It is an oblong box, ·25 long, ·15 wide, and ·24 high, with rounded angles; the sides are covered with overlapping scales modelled in relief. In the centre of the flat top rises

[1] Mr. Edgar suggests that this figure may have been meant for a boat.

a square tower-like eminence with a round opening in the roof; there is a similar opening, ·03 in diameter, in the lower roof at either side; the interior is hollow, the base solid. There is no painting. To Mr. Hogarth it suggested 'a model of a palm-leaf hut furnished with a central pigeon-tower' (*J.H.S.* xix. 320). The treatment of the end walls, which at the top are pinched out into a projecting ridge divided by notches into four knobs which might stand for the ends of roof-beams, favours the idea that some kind of building is represented. The stepped outline offers some analogy to that of the Mycenaean shrine (*J.H.S.* xxi. 191–194); but if it reproduces the form of a building why is there no sign of a door? A satisfactory explanation must take account of the scale-like covering and of the three holes in the top, features which reappear on fragments of two similar vessels from the same site and cannot be due to caprice. The openings are too small to admit even a child's hand and are not suited for pouring; consequently the vessel was not meant for storage of

Fig. 183.—Box with Rounded Feet.

food or drink. It might however have been filled with water and used for the ceremonial exhibition of flowers or of branches. The overlapping scales on the exterior are like nothing so much as those on the trunk of a palm-tree. It is easy to imagine palm-branches symmetrically disposed in the three openings. Just such a group of three branches is seen rising out of a vase on the Vaphio gem explained by Mr. Evans as a representation of the ritual watering of a nurseling palm. See *J.H.S.* xxi. 101, Fig. 1, and compare Fig. 25, showing a group of three trees behind an altar, and Fig. 57, showing three trees within a shrine. The explanation would be more convincing if the vessel under discussion had retained the form as well as the surface of the tree-stem. As it stands it is a cross between a palm-trunk and a Mycenaean shrine, and in view of the evidence collected by Mr. Evans in his *Mycenaean Tree and Pillar Cult*, the association of the two ideas is at least intelligible.

The vessel shown in Fig. 183 is an oblong open box (·38 m. long, ·16 wide,

·12 deep) raised on four feet which are rounded off like 'rockers.' It has been put together from fragments, more than half being supplied in plaster, but there can be no doubt about its original shape and dimensions. The genuine parts are two of the feet, the greater part of the bottom, which determines the length, and about one-third of the sides and ends. There are holes in the rim, originally two on each side, for tying the lid. The sides and ends are painted with a rough chequer-pattern in dark brown and yellow. The clay seems to be Melian.

§ 4.—*Lamps and other Domestic Utensils.*

Lamps, including those of stone.—It will be convenient to treat these together, according to form rather than material.

1. *Round lamps with a shallow well and two spout-like openings for wicks.* Pl. **XLI.** shows four typical examples. The position of the wicks is indicated by the fact that on lamps of clay and stone alike the effects of fire are visible on the inner angles and sides of the spouts. They may be divided according to their height into two groups. All were found at the Mycenaean level.

a. The majority have a very low foot and resemble the two stone lamps found at Vaphio (Ἐφ. Ἀρχ. 1889. πίν. vii. 20), others found at Mycenae (Tsountas-Manatt, Figs. 29, 30), and one of white marble found by Staes in

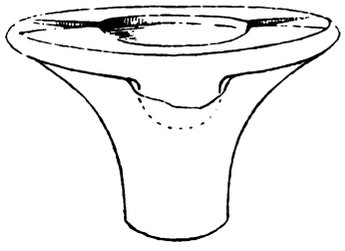


Fig. 184.—Steatite Lamp. (1 : 4.)

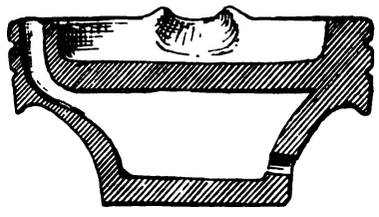


Fig. 185.—Section of Clay Lamp. (1 : 4.)

the third tholos-tomb at Thoricus, in their proportions but not in their ornament.

From Phylakopi we have such a lamp made of a close-grained red trachyte much like the material of one found in the Vaphio tomb. Another, made of dark Cretan steatite, has a tapering base in the form of an inverted bell, Pl. **XLI.** 1, and Fig. 184. It was found in G 3 : 7 at a depth of 1·10 (early period of Third City). A third, also of steatite, has a very small foot, and measured when complete ·19 across the top.

The most interesting of the clay lamps is one shown in Pl. **XLI.** 2 in top-view and in Fig. 185 in section. It is made of coarse red clay with a polished surface, and is much scorched and blackened in the neighbourhood

of the spouts, one of which is cracked and the other broken off. Height ·095 diameter ·19. It differs from all the others in being hollow, with a filling-hole in the margin and a drain-hole in the side of the stand. The purpose of this arrangement is doubtful; it may be that the cavity was filled with water in order to prevent the lamp becoming overheated; the plug-hole below made it possible to drain off the water as it became warm, and then to introduce a fresh supply of cold water from above.[1] Another example in clay has an elliptical well with a spout at either end for the wick, enclosed by a flange or saucer intended to catch any overflow of oil. There are fragments of at least six others.

It may be assumed that lamps of this low type were meant to be placed on some kind of stand; an earthenware tripod, ·51 high, with a socket at the top suitable for this purpose, was found in the pottery-magazine of House B at Palaikastro.

FIG. 186.
STANDARD LAMP.
(About 1 : 8.)

b. Of the stately stone lamps, made in one piece with a tall pedestal, which have been found at Mycenae (Tsountas-Manatt Fig. 31) and at Cnossos, one imperfect example came to light at Phylakopi; it was of steatite, and had a stem, with bold *torus*-mouldings, ·17 in diameter. There were fragments of similar tall lamps in clay, and it has been found possible to reconstruct one of them, Fig. 186. A portion of the stem is missing and has been supplied in plaster. As restored it stands ·51 high, but it may have been higher. Pl. **XLI.** 3 is a top-view of the bowl. It is made of reddish clay polished, in imitation perhaps of stone, to a lustrous dark brown. These pedestals are hollow. A fragment of one is decorated with oblique channels like those on a lamp-stem figured by Perrot and Chipiez vi. Fig. 458.

2. *Small hand-lamps of clay with a straight tapering horizontal handle at one extremity and a pinched-down lip at the other.*—Fragments of several such lamps were found and one whole example. Diameter ·10, length including handle ·14. Others of the same type occurred in the Vaphio tomb (three examples, Ἐφ. Ἀρχ. 1889, *πίν.* vii. 13) and in the Dictaean Cave (*B.S.A.* vi. 105). The straight-handled vessel of this shape (above, p. 137, Pl. **XXV.** 7) has a sunflower pattern in its bowl; nevertheless there are marks of fire on the bottom which suggest that it has been used as a charcoal-pan.

Lamp-covers ?—Pl. **XXXV.** 7 shows a bell-shaped utensil of coarse red clay with a tubular orifice at the top; round the upper part are numerous small perforations; on one side of the vertical rim is a door-like opening, not

[1] Professor Petrie, after examining the lamp, has suggested that the reservoir was filled with water in order that the clay being saturated with water might not absorb oil.

broken away but deliberately formed by the potter. The specimen figured is ·075 high and ·095 in diameter; another is larger, ·08 high, ·11 in diameter. They are wheel-made and seem to belong to the latest period of the site. They served to shade or screen from the wind a small hand-lamp of the shape just described. The opening in the wall of the cover allowed the straight handle of the lamp to project.

3. *Stone Lamp with three lugs.*—Fig. 187 shows a remarkable lamp, ·18 long and ·06 deep, which has been cut out of a lump of argillaceous yellow tufa, burned red in places. It has a lip for the wick at the pointed end and square projections at the broad end and at each side. Below the projections the exterior has been trimmed to a vertical face, the object being to enable the vessel to sit in a specially designed frame.

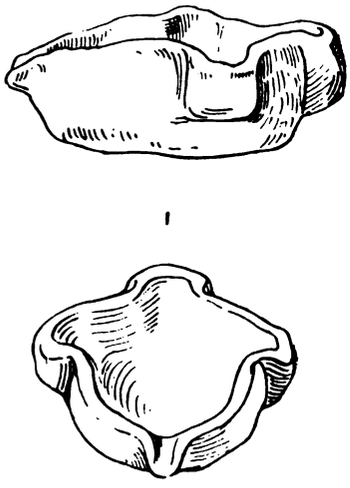


FIG. 187.—LAMP OF TUFA.
(Two views. 1 : 4.)

Torch-holders.—Three, of the usual Mycenaean type, a cylinder with a projecting saucer attached midway to catch the droppings; of coarse grey clay, one at least wheel-made. Height about ·18 m. One is so narrow at the base that it must have been affixed to some kind of pointed stand; the others are wide enough to stand by themselves. Cf. *Tiryns* Fig. 58, and two examples at Athens from Mycenae, 2597 and 2598, smaller than ours; others found on the Acropolis at Athens.

Fire-boxes.—These are small globular receptacles, usually supported on a ringstand with sides sloping inwards and upwards; the lower half of the cup is perforated with a number of small holes; and there is always a larger opening, sometimes at the bottom, sometimes at the side. In most cases the inside of the cup is caked with ashes and shows marks of burning, in others no traces of fire remain. The example shown in **XXXVIII.** 33 has

FIG. 188.—SECTION OF CLAY FIRE-BOX OR CENSER.—(1 : 2)

the large opening at the bottom, the sieve-like holes round it, and enclosing them a saucer-like recurved rim. Fig. 185 shows it in section. These vessels occurred in the strata of Mycenaean imports. They are common on early sites in Crete, but no instance is recorded from the mainland of Greece. The

Cretan examples show that the perforated side is the underside; some of them have feet on this side and a deeper recipient (for heating food?) above; the opening in the base was used, apparently, for putting in the charcoal and was then closed with some kind of wad.

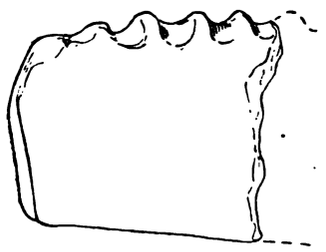


FIG. 189.—CLAY "SPIT-REST." (1 : 4.)

Spit-rests?—Two oblong slabs of coarse grey clay burning to red, about ·12 m. high and ·15 long, broader at the base than at the top, along which are a series of notches; perhaps used for supporting spits, Fig. 189. One has a perforation in the lower half. They occur also in Crete.

Tables.—These are earthenware discs. The example shown in Fig. 190 rests on a flat circular base, ·21 in diameter. From a point just above the base spreads a convex rim, concave on the upper side, the centre of which is occupied by a round projection with a central cavity ·04 deep. Ten

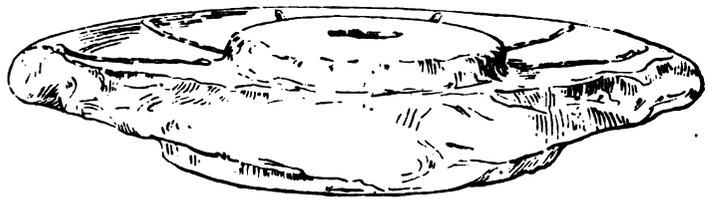


FIG. 190.—EARTHENWARE TABLE. (1 : 4.)

impressed lines radiate from the central boss to the circumference. The full width is ·37.

A second specimen, ·34 in diameter and ·055 in thickness, has traces of a central boss about ·12 in diameter, and an incised line round the edge. There are several similar fragments with incised patterns. A similar disc from Mycenae is in the Museum at Athens (3257). It has a regularly formed cup in place of the vertical socket seen in Fig. 190. Inside the cup are incised rays; and rays appear on the central boss of one of the Phylakopi fragments. Other examples occurred at Cnossos and at Gournia in Crete.

There are fragments of another and much larger 'table' of coarser clay; it seems to have been about ·90 in diameter, and to have stood on three or four plain legs about ·30 high which tapered to a point below.

Several coarse *shovels* or *scoops* of a familiar Mycenaean type, all imperfect. One, painted with broad red stripes over yellow wash in the style of the vase Fig. 104 (p. 134), is ·08 in diameter at the base, ·20 across the spreading mouth, ·08 high; the handle is broken. There are two such scoops from Mycenae in the Athens Museum, Nos. 1124, 2596. Others have been found at Cnossos, at Praesos and in the Dictaean Cave (*B.S.A.* vi. p. 105, Fig. 35, i).

§ 5.—*Spindle-whorls and Small Objects.*

Spindle-whorls.—(*a*) Eight examples of the common Mycenaean type, **XXXVIII.** 12–14, the material being a greenish *stone* with purple veins, the form a truncated cone with pierced axis; one has a small cylindrical projection or lip at the top. Whorls of this type are common at Mycenae and have been found in Crete.

(*b*) One of the same material in the form of a double truncated cone, with a simple pattern of incised rays alternating with rows of punctures on one side (**XXXVIII.** 16); cf. *Ilios*, Fig. 66.

(*c*) 44 examples made of *clay*, generally a coarse grey ware, sometimes polished: the form is a low cone with convex sides, often with a hollow below and in one case with a hollow above. The double cone also occurs; cf. *Ilios*, Fig. 67–70. Eight have a rude pattern of incised lines and dots (**XXXVIII.** 15–17). These rude specimens seem to be of native make; it is impossible to say how far they belong to the pre-Mycenaean period or to be sure that they are all spindle-whorls and not beads. The largest is a flat disc of fine yellow polished clay, ·06 in diameter. Another of coarse grey clay, ·05 in diameter, from the Mycenaean city (**XL.** 28) has a rude spiral pattern impressed on both its upper and its lower face; cf. F. and L. *Myk. Vas.* Taf. C. 37.

Clay Cones.—An irregular conical lump of red clay, ·05–·06 m. in diameter, with the top pinched in while still wet has a rough "catherine-wheel" pattern impressed on the flat bottom. There were also found a number of irregular cones, one side flat, the other pinched up into a stem or handle; on the flat side there is generally a small cup-like hollow and in one case a hole in the centre of the hollow. A few are of an irregular oval shape. The clay is coarse grey, burning to red. For the form cf. the early Italian seals figured by Evans, *J.H.S.* xiv. p. 336, Fig. 54. Greatest height ·04; greatest diameter ·05.

Spools.—Twenty thin cylinders of clay ·04–·05 high, expanding at top and bottom (**XL.** 36); the clay is generally reddish yellow with white slip and an ornament of rays or the like in dull black paint, chiefly on the concave ends; they must have been used for winding thread; cf. Dorpfeld, *Troja und Ilion*, Fig. 394.

Discs or Counters, usually ·04—·08 in diameter, cut or chipped out of fragments of earthenware; sometimes the pattern is recognisable; among them are pieces of Mycenaean vases. They may have been used in a game. About fifty were found.

Among objects of unknown use are a piece of unbaked clay (**XL.** 26) ·05 long, covered with deeply scored lines in a chequer pattern, and having a small knob at the narrower end; an object of well-polished grey clay, exactly the shape of a revolver-bullet, ·045 high and ·025 in diameter; a flat piece of clay, broken, now ·05 long, swelling out at one end into a ring;

and seven large earthenware cylinders, ·08—·13 high, and ·075—·09 in diameter (cf. *Ilios*, 1200), among them one with a deeply incised line across its diameter (cf. *Tiryns*, Fig. 71, which has two incised lines); similar cylinders were found in houses at Palaikastro in Crete.

Pulleys and oblong or pear-shaped objects of coarse clay, probably used on the loom, about ·015 thick and ·05—·12 across. The more pointed end is perforated for suspension and the edge above and near it is grooved; clearly a string passed round the disc, working on the groove; cf. *Troja und Ilion* Fig. 391; a specimen from Troy is in the Athens Museum, No. 4394.

Brush-handles ?—Fragment of a vase of coarse red clay, about ·08 m. by ·09 and ·015 thick, in which a number of holes have been bored ·01 deep and ·08 apart. It has a flat back, thus differing from the high-backed 'brush-handles' of Hissarlik, which have been successively explained as stamps for printing patterns on the skin (by Körte and Wolters, *Ath. Mitth.* xxiv. 35), as foot-rasps (by Cecil Smith, *Cl. Rev.* xiv. 140), and again as brush-handles (by Götze in *Troja und Ilion*, p. 388).

R. C. BOSANQUET.
F. B. WELCH.

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23–28.	,, flakes	,, ,,
29.	Clay quadruped (ox?), headless	,, 203
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PLATE XXXIX.

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7, 8.	Marble idols of primitive type	,, 194
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11.	Painted terracotta arm, broken off at shoulder	,, 202
12.	Earthenware disc	,, 214
13–22.	Painted terracotta idols	,, 202

PLATE XL.

1–5. Bone awls . . . . . Page 192
6. Hollow bone, ground flat at one end . . . . . ,, ,,
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9. Bone pin or spindle . . . . . ,, 192
10. White flint, chipped into shape, but not serrated . . . . ,, 194
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13. ,, flake . . . . . ,, ,,
14. Bone cylinder . . . . . ,, 192
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26. Unbaked clay object of unknown use . . . . . ,, 213
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30. ,, head of man . . . . . ,, 203
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32–34. Clay quadrupeds, headless 203, 204
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36. Clay spool . . . . . ,, 213
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PLATE XLI.

1. Top-view of stone lamp; cf. Fig. 184 . . . . . Page 209
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3. ,, clay ,, ; cf. Fig. 186 . . . . . ,, 210
4. ,, clay ,, ... ,, 209

CHAPTER VIII.

THE OBSIDIAN TRADE.

THE volcanic glass called obsidian has been used in many parts of the world as a material for knives, arrowheads, and other implements. Melos, being the principal if not the only source from which this useful substance could be obtained by the peoples of the Aegean,[1] seems from very early days to have had commercial relations not only with the neighbouring islands and the Greek mainland, but with the coast of Asia Minor and even with Egypt. This regular intercourse and the prosperity resulting from it must have done much to foster the vigorous local civilisation revealed by the excavations at Phylakopi.

§ 1.—*The Quarries.*

There are two great obsidian-fields in Melos, both in the northern half of the island (see Fig. 191 [2]). One is the high bare ridge of Demenagaki near Komia on the east coast, the other a plateau overlooking the great harbour, between the modern port of Adamanta and the ancient Hellenic capital.[3] Both localities bear the name τὰ Νύχια, νύχι (from ὀνύχιον) being the common word in Melos as in Crete for a flint, especially a gun-flint. The obsidian is in the form of irregular nodules, varying from the size of an egg to that of a man's head, which lie embedded in a matrix of yellow pumice like currants

[1] No one has yet verified the deposit of native obsidian in Kimolos, mentioned by Fiedler, *Reise durch Griechenland*, ii. p. 358, and cited on his authority by Finlay, Bursian, Blinkenberg, and others; Ehrenburg, *Die Inselgruppe von Milos*, p. 1, denies its existence. Fiedler may have been misled by the fact that there is a region called Νύχια in Kimolos; but this takes its name from the white flints which occur there as on the north-east shores of Melos.

A supposed deposit in Antiparos, reported by Theodore Bent in *J.H.S.* v. 1884, p. 52, is questioned by Dümmler in *Ath. Mitth.* xi. 1886, p. 43, but Mr. Cordellas tells me that it does exist. For deposits in Thera, see Fiedler, ii. 475, and Ross, *Reisen auf den gr. Inseln*, i. 180. A specimen brought back by Finlay, who accompanied Ross, is not true obsidian.

The South Kensington Museum possesses a small piece of native obsidian, embedded in yellow pumice, from Samos.

[2] Drawn by Mr. P. Rodeck.

[3] See Mr. Mackenzie's excellent description in *B.S.A.* iii. 1896-7, p. 77; also, for the obsidian of Demenagaki, Fouqué et Michel Lévy. *Minéralogie microscopique*, 1879, Pl. xvi. 2; and for that of Adamanta, G. vom Rath in *Sitzungsb. der Niederrhein. Ges. für Natur. u. Heilkunde*, 1887, p. 51, and Fiedler, *op. cit.* ii. p. 389.

in a pudding.[1] It is present in inexhaustible quantities and can be extracted with comparatively little labour.

The ancient workings are entirely on the surface, quarries rather than mines, and are for the most part shallow and irregular; some, however, on the eastern slope of Demenagaki have vertical faces suggestive of a more organised industry, and one at Adamanta amounts to a cave.

Heaps of splinters and large chips, mostly retaining the rough outer rind of the original nodule, show that the obsidian underwent some amount

FIG. 191.—SKETCH MAP OF MELOS (*B.S.A.* iii. p. 72).

of shaping at the quarry. One looks in vain for the fine razor-flakes and polygonal *nuclei* so abundant at Phylakopi, and is tempted to account for the coarser debris of the quarries by supposing that large rude implements were fabricated here in the neolithic period. But this view is untenable: such implements have not been found in the Aegean; morever the chips are just such as would be produced in trimming the gnarled lumps of native obsidian into blocks suitable for striking off razor-flakes. The roughing out before shipment would facilitate trade by increasing the usefulness of the commodity while reducing its weight and bulk. Moreover, the knack of dislodging flakes from a properly prepared block could be acquired by practice, but the formation of that block out of the original nodule demanded a degree

[1] Theophrastus, *De Lapid.* ii. 14, and iii. 21, seems to mention Melian obsidian under the name of Αἰπαραῖος and its pumiceous matrix under that of Κίσσηρις.

of experience and manual dexterity which the ordinary purchaser was not likely to possess. In terms of metal, the nodule may be compared to unsmelted ore, the prepared block to the ingot of commerce. One such prepared block, an irregular prism, ·09 high and ·07 in diameter, is in the Finlay collection, and is said to have been found in Melos.[1]

There was some exportation of unworked nodules. We found several, the largest weighing over 1 lb. avoirdupois (about half a kilogramme), in the Mycenaean town at Palaikastro in Eastern Crete. They seem to be pieces which were too small or too awkwardly shaped for conversion into saleable blocks, and may have been destined for some of the minor uses mentioned in § 5.

In a Roman mosaic excavated by members of the British School on the west side of the ancient town of Melos, obsidian was found to have been used with excellent effect for the black *tessellae*. With this trifling exception, the quarries remained unworked and forgotten for upwards of three thousand years, until Fiedler rediscovered them in 1836 and for a moment conceived the idea that they might be made to supply raw material for the manufacture of glass bottles.

§ 2.—*The Obsidian Workshop of the First City.*

The preliminary shaping at the quarries had for its object the production of regularly formed blocks, the chips struck off being left on the spot as refuse. In the next stage, illustrated by discoveries made within the town of Phylakopi, the relation is reversed; the object is to obtain symmetrical ribbon-like flakes, and the *nucleus* or core from which they have been detached is thrown away as worthless. These flakes have a very keen edge, and are commonly called knives, or razors.

In 1896 the remains of a regular factory of obsidian knives were discovered in the Compartment B 5. 3, near the south-west angle of the town. The deposit belonged to the First or pre-Mycenaean city, and passed under a wall of the Second or Early Mycenaean city.[2] When I saw it at the close of the season's excavations, it was a bed of refuse cores, used or refuse flakes, and useless chips, and was upwards of ·20 m. thick. The photograph (Fig. 192), represents a selection of noteworthy specimens which I made there and then; a series of normal types are figured on Pl. **XXXVIII.** 19–28.

Taking the latter first, 19 is a core or *nucleus* the nearer side of which retains the rough outer coat of the original nodule; 20–22, cores from which a number of flakes have been struck; 23–27, flakes struck from such cores, 27 being of more than average length; 28, a chip from an earlier stage in the manufacture.

[1] Compare Torquemada's description of the blocks used in Mexico; they were pieces "about eight inches long or rather more, and as thick as one's leg or rather less, and cylindrical." The flaking-tool was applied "against the edge of the front of the stone, which also is cut smooth in that part"—a phrase implying preliminary shaping. Quoted by Tylor, *Anahuac*, p. 331.

[2] *B.S.A.* iii. 17 and iv. 24.

Great as was the accumulation, there were few pieces in it which did not fall under one of these heads. Of the exceptional pieces in Fig. 192, (*a*) is a pointed flake, triangular in section, with only two facets on the back instead of the usual three (seen on *c* and *e*); it is incomplete at the broad end. The tip of a similar flake is described by Perrot and Chipiez vi. p. 116, Fig. 2, as an arrowhead—wrongly, I think.

(*b*) is an *angle-flake* of a form usually present in any considerable collection, not, as has sometimes been supposed, a saw. It comes from a block which was roughed out by striking a succession of flakes from two adjoining sides, the pressure which dislodged them from the one side having been applied midway between the hollows formed by the previous removal of flakes from the other; in this way the angle acquired the form of a zig-zag ridge; in the next stage the flakes were removed parallel to the longer axis of the core and at right angles to those removed

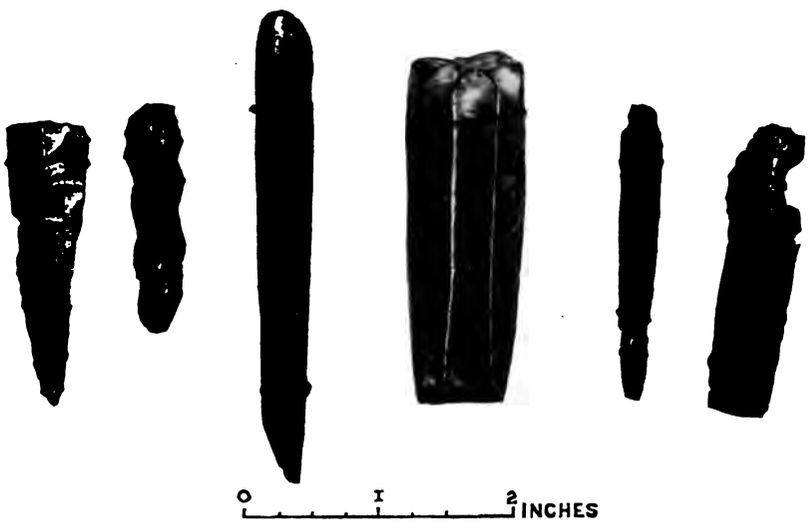

FIG. 192.—SPECIMENS OF WORKED OBSIDIAN.

in the trimming process (which had been struck off *across* the longer axis), and one of the first to be removed would be the angle flake. The *outer flakes*, bearing on their backs the marks of this previous cross-flaking, were rejected as useless; the next series were *inner flakes*, and had smooth backs, like that of (*c*) in Fig. 192, divided in the most perfect examples into three facets, each formed by a segment of the convex face of an earlier flake.

(*c*) is a remarkably well-shaped flake, broken at the lower end, and in its present condition nearly 0·09 long. This is the longest flake found at Phylakopi.

(*d*) is an unusually symmetrical chisel-like *nucleus*. Such specimens have sometimes been mistaken for implements deliberately trimmed to a given form. Thus Dumont described some of the cores in the Finlay collection as 'pointes' and was inclined to regard others as hammers 'ces pointes comme ces marteaux, quand on leur donnait un manche de bois ou de corne, devaient former des armes excellentes.' The core on which he principally relied as an instance of a 'pointe' is now represented only by a cast in the Finlay collection; the tip certainly seems to have been ground after the removal of the flakes, but it is doubtful whether the intention was to produce a weapon, and Perrot and Chipiez go too far when they reproduce Dumont's sketch of this isolated specimen and describe it as one of the two principal forms in which obsidian occurs (*La Grèce primitive*, pp. 113, 114). Dümmler, too, seems to have regarded the square-tipped *nuclei* as hammers, for he speaks of 'the two well-known principal types, knife and hammer' (*Ath. Mitth.* xi. 1886, p. 28). There is no reason for thinking that cores were used

as hammers, but two examples found in cist-graves show marks of use as pestles; one is figured in Ἐφ. Ἀρχ. 1898, Pl. VIII. 10.

(*e*) is a very slender tapering flake (tip lost), the butt of which has been chipped to form a neck for lashing. This exquisitely shaped implement was very brittle and can only have been used for delicate work.

(*f*) is another instance of secondary chipping, the deep notch on the right hand having been formed with intention. I could find no other instance of such treatment.

The skill of the Melian obsidian-workers was not of a specially high order. As might be expected, they were prodigal of their cores, having an unlimited supply at hand, and threw them away when the flakes became inconveniently small, whereas workers in other districts who had to import their material seem to have utilized the same *nucleus* so long as it was possible to get a flake from it. The average length of the cores from Phylakopi is about ·055 m. (2⅛ ins.). Of 11 cores found by Mr. Hogarth in the town at Cnossos in 1900 only one attains this length; yet in comparison with most parts of the Aegean world Cnossos must have been plentifully supplied.

There were comparatively few complete flakes; their average length is slightly greater than that of the cores. We may assume that those which remained on the spot were the failures, and that the best specimens were taken away. Indeed, but for the accidental breakage of the beautiful blade shown in Fig. 192 (*c*), we should not know what the best work of the Phylakopi 'knappers' was like. If it were complete it would be a companion to a remarkable set of knives discovered by Mr. Tsountas in the Panaghia cemetery on Paros.[1] The tomb in question contained five obsidian knives, one being 15 m. (about 6 inches) in length, two ·12, another ·10, and the fifth of normal size, and three cores, the longest measuring ·085, besides two marble palettes, a lump of red pigment, some bronze wire, and other objects characteristic of Cycladic cist-graves. These exceptionally long specimens are of interest as proving that Melian obsidian could be made to yield flakes comparable in size and beauty with those produced in much larger numbers by the Aztecs. They stand quite alone, however; the longest flake in the Finlay collection, found in a tomb on Ios, measures only ·87. The size of the normal flake depended directly on that of the blocks supplied by the quarries, indirectly on public demands. When their customers wanted long flakes, the quarries could produce suitable blocks; one such, measuring ·19 by ·10 m., from which it would be possible to get flakes of royal proportions, was found at Cnossos.

The exceptional size of the core found in the Parian tomb makes it probable that the flakes were struck off there, not imported from Phylakopi, and we shall see in a later section that cores are often associated with flakes in all parts of the Aegean. It is not necessary to suppose that the workshop discovered in the excavations manufactured knives for export. The needs of the town would account for more than the amount of waste material that has come to light in it.

[1] Ἐφ. Ἀρχ. 1898, pp. 156, 157, and Pl. VIII. 15, where the largest of them is represented full-size, *not* to the scale of 1 : 2 which is erroneously assigned to it at the foot of the Plate.

§ 3.—*Uses of Obsidian: the Knife and Razor.*

The ultimate object of the vast export-industry carried on at the quarries, as of the local manufacture at Phylakopi, was the production of keen-edged flakes. During the latter part of the Neolithic Age and far into the Bronze Age the blocks from which they could be struck seem to have been in demand over a wide area, and the flakes themselves must have played the same part in everyday life as our pocket-knives, razors, and scissors.

The Mexican parallel is instructive. Long after the introduction of bronze, and even after the Spanish Conquest, the obsidian quarries at Cerro de las Navajas, the Hill of Knives, were the centre of an important industry. The use made of the material was more varied than in Melos; it was ground down with sand into mirrors, masks, rings and cups—a development unknown in the Aegean, though there is reason to think that lapidary's work of this kind was applied to Melian obsidian in Egypt; but the staple product was the flake, and the Spanish writers imply that the flakes were chiefly used as razors.[1] They were easily blunted by use and were then thrown away; a single workman could produce a hundred in an hour, so that they were abundant and cheap.

The difference in size between the Mexican and Mycenaean razors of obsidian may be due in part to a difference of custom. "The Mexicans as a race did not have heavy beards, but the masses among the male population shaved their heads with the exception of a small tuft near the crown."[2] The Mycenaeans, on the other hand, wore their hair long; some of them seem to have been "clean-shaven," others to have shaved only the upper lip, a custom, grotesque according to our ideas, which continued to be widely prevalent during the early Hellenic period, and was enjoined if not enforced by law at Sparta.[3] The small flake used in the Aegean sufficed for the shaving of this limited surface.

Torquemada's description of the way in which the Mexican flakes were detached from the core, not by a blow but by pressure with a wooden point, may explain why no stone flaking-tools were found with the Melian deposit. The workman sat on the ground, holding the block of obsidian between his naked feet as in a vice and grasping the wooden flaking-tool with both hands; it was a stick about three cubits long, and seems to have had a crutch-shaped crosspiece at the upper end, which rested against the operator's chest, so that he could regulate the pressure with his body while directing the tip with his hands.[4] The formation of the tip is not clearly described, but as Sir John Evans has remarked, it would be difficult to find wood hard enough

[1] E. B. Tylor, *Anahuac*, pp. 95-101 and 331; G. G. MacCurdy, *The Obsidian Razor of the Aztecs* (in *American Anthropologist*, *N.S.* ii. 1900, pp. 417-421).

[2] MacCurdy, *op. cit.* p. 421.

[3] Perrot and Chipiez, vi. Fig. 381. Plutarch, *Cleom.* 9.

[4] Tylor, *Anahuac*, p. 331, Evans, *Ancient Stone Implements* (1897), pp. 23, 24.

for the purpose except in the tropics; in Melos the substitute may have been formed of bone or horn. The smaller Aegean cores cannot have been held with the feet, but other devices readily suggest themselves.

Mr. MacCurdy has pointed out a characteristic which makes the obsidian flake wonderfully efficient as a cutting instrument:

> 'If the edges of an obsidian flake on its nuclear or inner surface be examined carefully with a pocket lens, or even with the naked eye, several series of parallel lines or markings of varying length and remarkable for their regularity are easily distinguishable. All end in one direction, uniformly at the edge, which they meet at an angle of about 45° . . . . . The phenomenon of these delicate markings is due to what seem to be multitudinous planes of fracture parallel to one another, penetrating, on the one hand, the core and, on the other, the flake, probably at right angles to their common surface of fracture . . . . . The parallel lines of fracture give it' (the flake), a feather-edge—an edge similar to that produced on a steel razor by grinding and one almost as straight as that of a razor for the greater part of its length.'

§ 4.—*Uses of Obsidian: the Arrowhead.*

It is characteristic of the poverty of the Stone Age in Greece that it has yielded little evidence of primary and much less of secondary working of obsidian or flint. A few finely chipped arrowheads of obsidian discovered in the prehistoric villages of Dimini and Seskio in Thessaly, seem to belong to a true Neolithic Age, but before the publication of the evidence it is difficult to discuss the affinities or chronological relations of this remarkable local culture.[1] Obsidian chips and fragments of flakes have been figured as arrowheads,[2] and some of them may possibly have been so used. The best example of a rudely formed obsidian arrowhead is one from Tiryns, made from a fragment which retains its primary fracture-surfaces at the broad end, while the other end has been worked to a point by secondary chipping.[3]

No arrowheads were discovered at Phylakopi. If they had been manufactured there for export it is likely that specimens spoiled in the making would have come to light. Of course, any inference drawn from the absence of such 'wasters' applies only to the First City—a workshop deposit of the Second or even the Third might yield different results. Elsewhere, however, obsidian arrowheads have been found in definite deposits, affording clear evidence that the secondary chipping of obsidian was practised during the early Bronze Age, and had attained a high degree of perfection by the time of the shaft-graves at Mycenae.

An interesting set of eight was found not long ago in a tomb on the north side of the Acropolis at Athens,[4] together with primitive handmade pottery. They vary in size and shape, but all have a fairly symmetrical

[1] An account of these excavations, by Messrs. Tsountas and Staes, is in the press.

[2] Schliemann, *Tiryns*, Figs. 109–111; Perrot and Chipiez, vi. p. 116, Fig. 2, the two objects on the left redrawn after Dumont, *Collection Finlay*; the third, described by Dumont as of flint (*silex*) and found in Asia Minor, seems to be grouped with them by mistake.

[3] Schliemann, *Tiryns*, Fig. 108. The great length (8 cm.) of a supposed 'arrowhead' from Therasia (Perrot and Chipiez, vi. pp. 130, 145) suggests that it was used as a tool, perhaps as an awl.

[4] By Mr. Skias. See Ἐφ. Ἀρχ. 1902, p. 128, where six of them are figured.

triangular head (length ·015 to ·034 m., width ·011 to ·014) with convex faces and rudimentary barbs and a thick stem (length ·008 to ·013) tapering towards the butt. The thickness of the stem, which gives them a clumsy look, was necessitated by the material, which is more brittle than flint. Ten of this type (length ·023 to ·066 m.) were found in the later Neolithic stratum at Dimini, and one at Sesklo, in Thessaly; and one with a very short tang at the Argive Heraeum.

Thirty-five arrowheads, about half of flint and half of obsidian from ·016 to ·038 in length, lay heaped together in the Fourth Shaft-grave at Mycenae.[1] The stem, evidently the weakest part of the type just described, is here eliminated altogether, the head having a more or less lanceolate form with a semicircular notch chipped out of the base. The faces are less convex than those of the preceding series, and the fineness of the surface-chipping and symmetry of the curved barbs show that the arrowsmith was a master of his craft. Three other examples of this type, of less finished workmanship, were found in the soil covering the shaft-graves.[2]

Two others in flint were obtained in the excavations at Cnossos by Mr. Evans and one in obsidian of a heavier and probably earlier type, heart-shaped and very convex on one side.[3]

An obsidian arrowhead and another of flint, in form approaching those from Mycenae, were found in the Vaphio tomb[4]: and three more of flint in one of the tombs at Thoricus.

A bronze arrowhead of the same shape comes from the Sixth City at Hissarlik,[5] and many have been found at Mycenae, proving, as Mr. Tsountas has pointed out, the persistence of the old type even after its translation into metal.[6]

§ 5.—*Uses of Obsidian: the Threshing-sledge and Sickle.*

Dodwell, Leake, and other travellers who visited Greece in the early part of the last century, collected chips of obsidian from the rain-scarred sides of the tumulus at Marathon and described them as 'Persian arrowheads,' recalling the statement of Herodotus that the Ethiopians in Xerxes' army used arrows tipped with stone. Finlay was the first to point out that similar chips are to be found on the surface in many parts of Greece, and that they are abundant in the tumulus because they were abundant in the surface-earth with which it was formed. As a partial explanation of their wide diffusion he suggested that obsidian might have been used for the teeth of threshing-sledges, such as are still used in most Mediterranean countries.[7]

[1] Schliemann, *Mycenae*, p. 272, Fig. 435, where fifteen are figured. He describes them as all of obsidian, but this is not so.

[2] *Mycenae*, Fig. 126.

[3] Candia Museum, Nos. 283, 284, 281.

[4] Athens Museum, No. 1846.

[5] Schliemann, *Troja*, Fig. 1527.

[6] Ἐφ. Ἀρχ. 1888, Pl. IX. 22.

[7] *Trans. Roy. Soc. Lit.* iii. 1839, pp. 393, 405; παρατηρήσεις, p. 16. Finlay's view was discussed and accepted with reservations by Dumont (*Matériaux pour servir à l'histoire de l'homme*, Mai 1872), who is closely followed by Perrot and Chipiez, vi. p. 117.

Sir John Evans has made a similar suggestion to account for the fragments of flint which have been noticed on Romano-British sites.[1]

The threshing-sledge of modern Greece, called by various names (*ἁλωνίστρα, βωλόσυρος, ντουγένι, δονάκι*), corresponds in all respects with the *tribulum* described by Varro—'*fit e tabula lapidibus aut ferro exasperata, quae imposito auriga aut pondere grandi trahitur jumentis junctis ut discutiat e spica grana.*' In the Peloponnese it is shod with iron 'razors' (*ξυράφια*), in Crete with long splinters of grey flint, tons of which are imported every year from a Black Sea port and sold by weight in the village shops.

In view of the scarcity of flint in the Aegean, well illustrated by this modern instance, it seems possible that obsidian was once used for this purpose. Being more brittle than flint it might require more frequent renewal, but this would matter little if the one were cheap and plentiful, the other scarce and dear.

It is curious that in Melos, where there is a choice between obsidian and flint, the *tribulum* is unknown and the corn is trodden out by mules and donkeys freshly shod for the purpose; but before the days of iron shoes this alternative would have been less efficient. Much of the Melian flint is better suited for striking fire than for the manufacture of implements; it may have been exported in antiquity for either purpose, but this has yet to be proved. Mr. Mackenzie observed flint of good quality and signs of quarrying near Tria Pigadia on the east coast.

It is also possible that obsidian to some extent supplied the place of flint in the armature of sickles,[2] constructed perhaps like the Aztec swords, which were made of wood edged with obsidian flakes. The finding of flint sickle-teeth in the Third City at Phylakopi shows that even in the mature Mycenaean period bronze sickles were not in universal use[3]; at an earlier period there must have been many places where flint itself was more costly or less easily obtainable than obsidian; it is certainly far less abundant on ancient sites.

§ 6.—*The Finlay Collection and its Sources.*

Before discussing the range of the trade in obsidian it is necessary to clear the way by discussing the value of certain evidence which has hitherto been accepted without question.

Long before our excavations the obsidian-deposit of Phylakopi had been discovered by the natives. Dümmler in 1885 saw hundreds of knives and cores[4], and when we came there in 1896 some of them still lay on the surface

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[1] *Ancient Stone Implements of Great Britain* (1897), p. 284.

[2] For flint sickles see the references given on p. 194 above, and important papers by F. C. J. Spurrell in *Archaeological Journal*, xlix. p. 53, and by Blinkenberg in *Mém. de la Soc. des Antiquaires du Nord.* 1896-1901, p. 183.

[3] A saw-edged copper sickle was found in the prehistoric village on Thera which corresponds in date with the Second City at Phylakopi. See *B.C.H.* 1870, p. 201, and Perrot and Chipiez, vi. p. 149.

[4] *Ath. Mitth.* xi. 1886, p. 28.

near the excavation from which they had been thrown, a sort of tunnel driven into the mound from the sea-face. It was said to have been dug five-and-twenty years before by a Melian well-known as the author of clandestine excavations, who had found a quantity of obsidian and sold it in Athens. On my return to Athens I was able to get confirmation of the story from one of his family, who had started in business as an antiquity-dealer and still had in his possession some bushels of cores and flakes.

The date mentioned, five-and-twenty years before 1896, corresponds with that of the quest set on foot by George Finlay from 1869 onwards. Since the thirties he had been an eager isolated student of the prehistoric antiquities of Greece, and in his old age, after a visit to the Swiss lake-dwellings which had deepened his enthusiasm, he endeavoured to awaken general interest in these studies by a pamphlet entitled *Παρατηρήσεις ἐπὶ τῆς ἐν Ἑλβετίᾳ καὶ Ἑλλάδι προϊστορικῆς ἀρχαιολογίας*. It was distributed broadcast in the provinces, especially to schoolmasters, and was well calculated to catch their attention, containing as it did an outline of recent discoveries in Switzerland, hints of the possibility of similar discoveries in Greece, and pictures of stone implements found in Greece by himself and his friends with parallel columns of description in Greek and in English. The idea was that the schoolmaster and his pupils should use their eyes and send to Athens any objects of the kind which they could discover, and it was so far successful that his collection, which up to the end of 1869 numbered only 80 pieces, increased during 1870 to 266, during 1871 to 382, and during 1872 to 645. Most of the new accessions reached him through an agent, now dead, whom I shall call X; I propose to show that—at any rate in regard to the specimens of obsidian—this man's statements as to the sources from which he got them were more ingenious than accurate.

What makes the matter more serious is that he imposed on others, in particular on Finlay's friend, the late Professor von Heldreich. Thus we must doubt the alleged sources of specimens of obsidian said to come from Mesolonghi, Laurion, Stamata and Pentelicus, Vari and Tanagra, which were obtained for Virchow by von Heldreich and exhibited to the Berlin Anthropological Society early in 1873.[1] I had an opportunity of discussing the whole matter with Professor von Heldreich about a year before his death; and certain particulars which he communicated to me completed the story which I had already to some extent reconstructed from Finlay's papers.

Finlay's own register of his stone implements passed into the possession of the British School in 1899 along with his Library and a part of his collections, by the generous gift of Mr. W. H. Cooke, his nephew. It is a record of these purchases, of the reported provenance of each object, and in many cases of the price and the seller's name. Obsidian is rare among the earlier entries, but becomes more and more prominent from December, 1871,

[1] *Verhandl. Berl. Ges. für Anthrop*, 1873, pp. 110 113, Pl. XIV. The carefully labelled collections presented by Finlay to certain foreign museums lie equally under the ban of suspicion.

onwards. It will be sufficient for my purpose if I summarise the entries relating to obsidian and a few others which illustrate them.

1870. May 5. *110, Peloponnesus*, obsidian core.
Nov. 18. *218–222, Scopelos* including one core, (X).
Dec. 20. *259–266, Tanagra* including *265*, 5 cores and 12 small chips, and *266*, a number of fragments, 'brought by D, who travels about the country and collects coins; he said that he found them in the bed of the Asopus.'
1871. Feb. 28. *289–294, Kalamos, Attica*, including 3 pieces of obsidian (X).
Dec. 26. *371–382, Mesolonghi*, of which 6 obsidian, 'all fine pieces.'
1872. Feb. 2. *409–414, Mesolonghi* (no obsidian) sent by schoolmaster to X.
,, *415–450, Salagora* (no obsidian) sent to X by schoolmaster at Arta.
,, *451–473, Salagora*, 20 cores, 31 flakes and small pieces.
Mar. 20. *484–489, Corinth*, 6 cores and a number of flakes.
,, *490–493, Mt. Pentelicus* (X) including 2 pieces of obsidian.
June 10. *511–541* 'purchased from X, *who assured me they were sent to him from Eretria*, where they were recently found in an excavation.' [No obsidian here; I quote Finlay's remark because it implies a shade of doubt.]
June 12. *543–558, Kalavryta* 'collected in part by the shepherds, who now find them in the mountains, since their attention was directed to the subject.' [No obs. The reference to the effect produced by the pamphlet is noteworthy.]
July 20. *563–596, Elis*, including 1 core.
Oct. 8. *597–607, Kimolos*, all obsidian. [Large spalls like those at the quarries].
,, *608, 609, Melos*, 2 balls of obsidian.
,, *610–613, Sicyon and Environs*, 38 pieces including many cores.
,, *614–616, Chiliomodi* (*Tenea*), 8 cores.
,, *617, Stymphalus*, 38 flakes.
Nov. 8. *639*, 16 knives and saws, 24 smaller and 10 fine flakes, 9 cores. From X, '*who said they were found in Attica, but afterwards the Cretan boy who sold them to him told me they came from Melos.*'
Dec. 16. *640–642, Melos*, 1 large core, 5 fine cores, etc.
,, *644–645. Attica*, obsidian (X).
1873. Sept. 2. *654, 655, Phalerum*, 2 cores; *Braonais*, 12 knives, saws, etc. (X).
,, 30. *699–700, Patras*, 4 cores, 23 knives, saws, etc. (X).
Oct. 4. *705–711, Marathon*, cores and knives.
1874. Mar. 25. *720*, cores and knives *given* by X.
April 1. *Near St. Theodore, Athens*, core and 7 flakes, *given* by X.
June 18. *723, Methana*, 9 cores, 14 flakes.
June 20. *724. Cerigo*, 7 cores, 2 fragments.

The almost simultaneous discovery of obsidian implements—most of them exceptionally fine specimens—at Mesolonghi, Salagora, Corinth, Melos, Sicyon, Chiliomodi, Stymphalus and other places, must in itself have excited the suspicion of a purchaser less experienced than Finlay; if he continued to buy after November 8, 1872, it was probably because the specimens were too good for a collector to refuse. There can be little doubt that much of the obsidian bought by him in 1872 came from the surreptitious excavation in Melos which I have already mentioned.[1]

As to the motive of the excavation: given such a clue as Finlay's pamphlet,

[1] The earlier purchases mostly consist of small weather-worn pieces which look like genuine surface-finds. The large unweathered cores and flakes, characteristic of Phylakopi, form a small proportion of the Mesolonghi and Salagora lots, but otherwise do not appear before Oct. 8, 1872. After that date they predominate.

which devotes seven out of fifteen illustrations to obsidian and emphasises its Melian origin, it was easy for the native organiser of excavations to recognise the importance of the bed of obsidian which may even then have been visible along the crumbling seaward face of the mound at Phylakopi. At any rate the source was tapped, and the agent in Athens was astute enough to dole out his stock in small lots, varying the *provenance* so as to humour Finlay's ideas —ideas fully borne out by subsequent observations—as to the wide distribution of obsidian in Greece.

§ 7.—*The Copenhagen Collection.*

While part of the find was sold piecemeal, as I have related, another part seems to have passed *en bloc* into a private collection which was purchased some years ago by Mr. Carl Jacobsen for the Ny Carlsberg Glyptothek. I have to thank Mr. Blinkenberg, who recently described its contents at a meeting of the Royal Society of Northern Antiquaries, for sending me a summary of his paper.

The collection, which was formed in Greece soon after 1870, includes a number of stone celts of normal types, and two series of obsidian objects, one said to have been found in Melos, the other at Pellene in Achaea. The former, consisting of 1858 pieces, may be claimed with some confidence as part of the spoils from the excavation known to have been made at Phylakopi about the time when the collection was being formed. Mr. Blinkenberg has analysed it with some care; there are 573 cores and over 1,200 flakes. Of the cores, 492 have had flakes struck from one side only, while 81 have had flakes detached from all sides impartially, the reason being that the external flakes were less symmetrical and therefore less valuable than the internal, and that it was possible to get more internal flakes with less trouble by working from one side only. There are about 700 external and 500 internal flakes in the collection, and as very few of them show signs of actual use he infers that they are the refuse of a workshop. Unfortunately, we have no guarantee that these proportions represent those of the original deposit, and not a selection made by the finder.

The second group of obsidian objects, numbering 268 pieces, is said to have come from Pellene in Achaea; whether or no that statement be well attested, it appears to form a homogeneous whole, differing from the Melos find in the smaller size of the cores and the presence of a larger proportion of inner flakes, most of which show signs of use.[1]

§ 8.—*The Range and Duration of the Obsidian Trade.*

Melos and Thera, its neighbour fifty miles to the south-east, differ from the adjacent Cyclades in that they are of volcanic formation. The

[1] Some of the small worn cores and flakes in the Finlay collection, labelled Corinth, Sicyon, Tenea and Stymphalus, may have come from the same source.

vanished fires which destroyed the legendary beauty of Thera may be said to have made the fortune of Melos, for its ruined crater is one of the best harbours in the Archipelago and its hills are stored with an extraordinary wealth of minerals. It is curious to find this unique endowment producing its effect at the very dawn of history.

It is difficult for anyone familiar with the antiquities of Northern Europe to imagine a Stone Age without flint. Yet flint played a very insignificant part in the Stone Age of the Aegean, though it is more or less abundant both in the native state and in worked implements around the circumference of the Aegean basin, in Asia Minor, Palestine, Egypt, North Africa and Sicily. Within that area flint is rare, and the obsidian of Melos supplied its place, when once its quantities were discovered. Obsidian could not furnish so great a variety of serviceable implements, but as a material for knives and razors it was unsurpassed, enabling its fortunate possessors not only to meet their own needs but to enter on a profitable trade with their neighbours. When was this discovery made—a discovery which must have given almost as great an impetus to local development as the introduction of metal? The relative scarcity in the Cyclades as compared with Greece, Euboea, and Crete of polished stone celts, the best superficial evidence of occupation by Neolithic man, suggests that they were then but thinly populated—a cause sufficient in itself to defer the discovery until relatively late in the Stone Age.

The occurrence of obsidian in association with Neolithic implements and pottery has been reported at Cnossos[1] and Phaestos[2] in Crete, at Dimini and Sesklo in Thessaly,[3] and at Troy.[4] Fragments of obsidian and of very primitive pottery were noticed by Mr. Tsountas on the hillside near Megalopolis in Arcadia, where a shepherd had previously dug up a clay bowl containing four stone celts—the most important "find" of Neolithic implements ever made in Greece.[5]

A further proof of the wide diffusion of Melian obsidian in Neolithic times would be the fact that it is sometimes found in prehistoric and early dynastic graves at Naquada and Abydos, if we could be sure that the obsidian found in Upper Egypt came from the Melian quarries.[6] In this connection there is an alternative which ought not to be overlooked. A stone called ὁ ὀψιανὸς λίθος, the nature of which has still to be ascertained, was procured under the Roman Empire from the coast of Abyssinia and was

[1] A. J. Evans in *B.S.A.* viii. 1901-2, p. 123 "From the earliest Neolithic times onwards the obsidian in general use was the fine black quality, such as is found in such profusion in Melos." In a letter he adds "I have notes of its occurrence at the very lowest Neolithic level."

[2] L. Pernier in *Mon. Ant.* xii. 1902, p. 22.

[3] Compare *Man*, 1902, 76; and p. 222, *supra*.

[4] Dörpfeld, *Troja u. Ilion*, i. p. 323, and H. Schmidt, *Schliemann Sammlung*, 8464 ff.

[5] Ἐφ. Ἀρχ. 1901, pp. 85–90, Pl. V. One of them is the largest celt known to have been found in Greece (length ·278), and all four are remarkably beautiful specimens. Mr. Tsountas regards it as a votive deposit.

[6] Petrie, *Naquada*, pp. 27, 45, 57. *Diospolis Parva*, p. 27 (beads) and Pl. X. 33 (flake, sequence-date 43). De Morgan, *Tombeau royal de Négadah*, Figg. 625–627.

wrought by Roman lapidaries into mirrors.[1] This might have been imported from the Red Sea in the prehistoric period, when hard rocks were much in request, by the caravan-route between Kosseir and Coptos. The same difficulty meets us not infrequently when we attempt to measure the geographical limits of Aegean commerce by the distribution of Melian obsidian. Lipari, Sardinia, Pantelleria, Auvergne, are sources for implements found in the Western Mediterranean: the deposits near Tokay in Hungary for any found north of the Balkans: the Caucasus and Russian Armenia for any found in the Black Sea and in Eastern Asia Minor.[2] It is only in the Eastern Mediterranean that we may safely treat obsidian as evidence of trade-relations with Melos. In the present case a petrological examination is necessary before the connection can be regarded as proved.

In view, however, of other evidence pointing to intercourse between Crete and Upper Egypt in the time of the First Dynasty, it is perfectly possible that this commodity, the most valuable that the Aegean islanders had to offer, may have reached the Nile in the fifth millennium before our era. In that country where the working of flint had attained a degree of perfection undreamed of elsewhere, obsidian was not, apparently, much in demand as a material for cutting tools, but it was ground by patient labour into vases thought worthy of a place in royal tombs.

Whether or no the Egyptian evidence can be relied on, the evidence from Cnossos and other sites proves the working of Melian obsidian in Neolithic times. No remains of this age have been discovered in Melos, and we cannot say whether the chief centre of population was at Phylakopi —perhaps on some spot which the spade can never reach, since a part of the ancient site has crumbled into the sea—or elsewhere on the island. The most ancient remains at Phylakopi belong to a village of the early Cycladic Age, which in contrast to the period preceding it is well represented in Melos; Mr. Mackenzie has called attention to four other village-sites, all situated near the sea on the south or west coast and characterised by primitive pottery and obsidian;[3] and we know of two inland cemeteries, for each of which we may postulate another small settlement.[4] Exploration might show that some of these had their roots in the Neolithic past, and enable us to trace the transition to the Bronze Age through the elusive 'Chalcolithic' period. That period, best illustrated in Greece by an axe of copper shaped exactly like a stone celt,[5] was certainly short-

[1] Compare Pliny, *N.H.* xxxvi. 67, § 196 ff, with *Periplus Maris Erythraei* 5; the bay from which it was obtained, 800 stadia south of Adouli, is identified by Fabricius with Hauakil Bay, by McCrindle with Hanfelah Bay in lat. 14° 44′, long. 40° 44′ E.

[2] This may be the source of some specimens from Assyria (Warka and Mugheir) now in the British Museum, mentioned by Schliemann, *Troja*, p. 47.

[3] *B.S.A.* iii. pp. 80, 85, 86, 88, at Provatà, Vurlidia, Samari and Plaka.

[4] One at Pelos, three miles south of Phylakopi, excavated by Mr. Edgar, *B.S.A.* iii. pp. 35 and 73; the other near Angathia in the southern horn of the island, discovered by myself in 1900, and dated by the presence of a marble 'idol.'

[5] Obtained in Euboea, and given to Finlay by Mr. Frank Noel, now in the Finlay Collection at the British School. See *Rev. Arch.* xx. 1869, p. 298 and Finlay, Παρατηρήσεις Fig. 6.

lived, and in the Aegean it is convenient to mark the boundary between Neolithic and Bronze Age by one definite criterion, the disuse of polished stone celts.[1]

The increasing use of bronze implements went hand in hand with an increasing use of obsidian, which yielded razors and knives sharper and cheaper than any that could be made in metal. Throughout this period obsidian razors, sometimes accompanied by cores, formed part of the funeral furniture of many graves in the Southern and Central Cyclades; they have been found in Amorgos, Anaphe, Antiparos, Ios, Naxos, Paros, Siphnos, Sirina (between Astypalaea and Carpathos), and Syros.[2] Some years ago I suggested, as an explanation of their frequent presence in cist graves, that articles used in the funeral toilet became *tabu*.[3] Since then the particulars collected by Mr. Tsountas in the course of a systematic exploration of these cemeteries have made it clear that there was no fixed rule; thus out of 180 virgin tombs opened by him in Paros, only 21, or 1 in 9, contained obsidian.[4] Where there has been little or no excavation it is rash to lay stress on the absence of archaeological evidence, but it would certainly appear that the obsidian of Melos, the marble of the Central Cyclades,[5] perhaps also the emery of Naxos, gave to those islands a disproportionate share in the early commerce of the Aegean, and that the Northern Cyclades and Euboea were but little affected.

The main current of the trade seems to have been to south and north more than to east and west. It is to this period that we must assign the early settlement at Tiryns—it cries for further excavation—in which obsidian knives were numerous,[6] the settlement on the southern slope of the Acropolis at Athens,[7] and the beginnings of the Second City at Troy, where obsidian had to compete with flint but was imported nevertheless in considerable quantity. On the other hand it found no market in Sicily,[8] which was well supplied with flint of superb quality, yielding flakes over six inches long, nor in Cyprus, where we might expect to hear of it if, as

[1] This does not apply to Egypt. Polished stone celts of a type akin to the Aegean, though generally rare in Egypt, have been found in some numbers at Coptos, under circumstances which led Professor Petrie to connect them conjecturally with the first invaders of the dynastic race, who would seem to have abandoned them and adopted the more varied and highly finished flint implements which they found in use there. In the Aegean the same type of stone celt may have persisted centuries later, unchanged because incapable of further development.

[2] I have to thank Mr. J. L. Myres for references which have enabled me to complete this list.

[3] *B.S.A.* iii. p. 67.

[4] Ἐφ. Ἀρχ. 1898, p. 150. The earlier evidence from the Cyclades is collected by Blinkenberg in *Mém. Soc. Ant. du Nord*, 1896, pp. 51–54.

[5] Mr. Soteriades recently obtained a marble bowl of Cycladic type from the prehistoric settlement at Chaeronea in Boeotia.

[6] Schliemann, *Tiryns*, pp. 55–83, esp. p. 78.

[7] J. L. Myres, *Man*, 1901, 70.

[8] From enquiries made for me by Mr. R. M. Dawkins it appears probable that the local variety of obsidian, found in worked chips at Stentinello, Matrensa, and other sites near Syracuse, in Pantelleria, and in the Aeolian Islands, was derived from one of the latter sources rather than from Etna. More highly vitrified than the Melian, it was more and more superseded by flint in early Sicilian civilisation. See Orsi in *Mon. Ant. Linc.* ix. pp. 457, 464, 472.

has sometimes been supposed, Cretan merchant-ships sailed that way to the mouths of the Nile.

The development in the fourth millennium before our era of this trade with the northern islands and mainlands explains why Phylakopi, the village on the north coast, came to overshadow other settlements nearer to the two great quarries. Mr. Edgar has suggested with reason (p. 235) that Phylakopi originally possessed an obsidian-quarry of her own, a third natural deposit, scanty remains of which may still be traced on the eroded cliffs to the west. Thanks to her convenient sheltered situation and probably also to this local source, she came to occupy the position held in Hellenic days by Delos and in ours by Syra as the central mart of the Cyclades. Then when the local obsidian was exhausted and ships loaded their cargoes, as some must always have done, in one of the inlets of the great harbour or in the bay of Komia, the general trade of Phylakopi would enable her to retain her position as capital of the island and headquarters of Cretan influence in northern waters. In recent centuries the neighbouring town of Argentiera, on the shore of the narrow straits that divide Melos from Kimolos, secured a corresponding pre-eminence based not on natural wealth but on geographical conditions; sheltered on three sides by the islands of Melos, Kimolos and Polivos, yet provided with several outlets, the roadstead of Argentiera was more frequented than any other in the whole Archipelago, because, says Sonnini, no wind could keep a ship shut up there.[1]

It was probably before rather than after the year 3000 B.C. that the First or Pre-Mycenaean City rose on the ruins of the Cycladic village. Its remains, like those of the Second or Early Mycenaean City which succeeded it, tell a story of increasing prosperity and closer intercourse with Crete, that tempts us to speculate on the political relations between the two neighbours. If there be any truth in the Hellenic legends about Minos and his Empire, Phylakopi has a good claim to be reckoned among Minoan dependencies. There is no reason to suppose that the island was regularly colonised; but it is difficult to believe that a dynasty whose power can only have been built up by financial and administrative ability of no common order, kings who were always in their counting-house, refrained for a thousand years from laying hands on so profitable a monopoly and never made it pay toll to the Cnossian treasury.

The lower levels of the Second City at Phylakopi were contemporary with the Middle Minoan period at Cnossos and with the Twelfth Dynasty

[1] Sonnini, *Voyage en Grèce* ii. p. 5. Miliarakis, Κίμωλος, pp. 23, 27. See also C. de Bruin, *Voyage au Levant*, 1725, i. p. 54, Randolph, *Present State of the Archipelago*, 1687, p. 35, and *Nouveaux Mémoires des Jésuites*, v. 1717–1753, p. 265. It was only at the close of the eighteenth century, when the town had been sacked again and again by pirates, that the European Consuls and the hereditary pilots emigrated from Kimolos to the safer heights o Kastro in Melos.

in Eygpt;[1] and at this time we meet once more with obsidian on Egyptian soil, in a limited class of obsidian scarabs to which Professor Petrie has called my attention and of which about a dozen have come under his notice, mostly large examples bearing a private cartouche.[2] In the ossuaries of this as well as of an earlier period, excavated by members of the British School at Palaikastro on the east coast of Crete, small obsidian blades were often found by twos and threes, and once in 1903 to the number of more than sixty associated with a single group of transported bones.[3] They have not been found in connection with the few Mycenaean larnax-burials which we have had the opportunity of examining, and it may be significant that the examples found in the town were usually below the Mycenaean floor-level. On the other hand the discovery of unworked nodules of obsidian in the latest settlement shows that it was still imported, perhaps for the agricultural uses mentioned above. Evidence from other Cretan sites is required, but I am inclined to believe that obsidian is much commoner in Cretan Settlements of the Middle Minoan period than in those of later date. In like manner at Troy it is more frequent in the Fifth City than in the Sixth which is characterised by Mycenaean pottery.[4] At Mycenae, where obsidian has been found in abundance, the evidence both of tombs and houses points to a diminution of its use in later times. On the other hand Schliemann, after speaking of the 'countless knives and arrowheads of obsidian' found at Tiryns, declares that 'these must at the time of the destruction of the building' (the palace) 'have been still in common use by its inhabitants.'[5] There were a few fragments in the tholos-tomb at Menidi, and an astonishing number, more than 500, in that at Spata.[6]

Obsidian remained in occasional use even after the beginning of the Iron Age. Flakes have been found in a 'geometric' tomb at Eleusis[7] and in another at Praesos in Crete. In the latter case they had been placed inside a vase, a fact which excludes the possibility of their having found their way into the tomb with the earth which filled it. It is conceivable that obsidian may have been used for the funeral toilet for ritual reasons after iron had taken its place in ordinary use; but it may also have held its own on its merits. 'It is doubtful,' writes Mr. MacCurdy, 'if the Bronze

[1] The evidence for this equation is the identical character, illustrated by more abundant finds at Cnossos, of the 'Kamáres' pottery from the lower *strata* of the Second City at Phylakopi and from the ruins of Kahun in Egypt, a city inhabited only during the reign of Usertesen II.

[2] Obsidian vases mounted in gold were found by de Morgan in the Tombs of the Princesses at Dahshûr (time of Usertesen III).

[3] *B.S.A.* viii. 1901-2, p. 290 ff.

[4] Dörpfeld, *Troja u. Ilion*, p. 386.

[5] Schliemann, *Tiryns*, pp. 173 and 78.

[6] *B.C.H.* ii. p. 224. An examination of this find shows that about two-thirds are fragments of razor flakes, none as much as ·05 m. in length, the remainder rough outer chips. Apparently, the flakes were struck off on the spot to form part of the funeral offerings. There are very few cores; these may have been removed for future use.

[7] Ἐφ. Ἀρχ. 1898, p. 107, the so-called "Tomb of Isis."

Age or the early Iron Age even furnished an instrument that could compare with it in point of sharpness.'[1]

The wide diffusion of obsidian fragments in the soil of Greece may be illustrated by Finlay's observations in Attica. He picked up specimens at Marathon, Kephissia, Liosia (his estate to the east of Tatoi, not the village on the road to Phyle), Kakosalesi (beyond Tatoi), Hagios Kosmas (near Trakhones on the coast south of Phalerum), and various places in the Mesogaia.[2] Probably they would be found, if properly looked for, in many parts of the Peloponnese and of Northern Greece, regions where their presence has hitherto been but rarely recorded. In all the tainted evidence which I have felt obliged to set aside, there are no names more plausible or that one would more willingly believe authentic than those of Salagora, the port of Arta, and Mesolonghi, places that might well have received cargoes of obsidian and transmitted it to the interior. Dr. Dörpfeld found flakes in the prehistoric settlement which he has excavated on the east coast of Leucas; it would not be surprising if the commerce extended much further up the Adriatic.

There is an equal dearth of recorded finds along the coast of Asia Minor and the adjacent islands. Troy excepted, I know only of a flake in the Leyden Museum labelled 'Smyrna,' and a microscopic chip embedded in a fragment of pottery, probably pre-Mycenaean, found by Mr. J. L. Myres at Kadi Kalé near Myndus in Caria. Archaeologists should always record the discovery of obsidian; it should be sought especially in the countries on the circumference of the Aegean area, Epirus, Macedonia, Asia Minor and North Africa. In deposits it does not afford so precise a date-mark as pottery of known fabrics but it is always of value as an index of commercial relations; found on the surface it may be a clue to the whereabouts of a Bronze Age settlement.

Some day, when more evidence has been collected, it may be possible to map the Obsidian Routes of the ancient Aegean world and to show in detail how during 3,000 years or more the traffic flowed in the same immemorial channels. It began in the Neolithic Age, it outlived the Bronze Age, and the span of its existence was as long as the interval that has elapsed since its extinction. One important conclusion results from the study of its successive phases—during all that period there was far more navigation and commerce in the eastern basin of the Mediterranean than historians have hitherto been willing to admit.

R. C. Bosanquet.

[1] *Op. cit.* p. 420.

[2] Cf. Finlay, Παρατηρήσεις, p. 16; Dumont, *Collection Finlay*, p. 4; Lambros, Ἱστορικαὶ Μελέται, Chapter I.

CHAPTER IX.

NOTES ON THE TOMBS.

THE chief places where there are remains of tombs are:—

(*a*) On the high ground south of the settlement, mostly along the sides of a small glen.

(*b*) Between the west end of the Great Wall and the first little cove among the cliffs.

(*c*) On the ridge between the latter place and the next inlet to the west.

(*d*) On the west side of the Bathing Creek.

(*e*) On the east side of the Bathing Creek.

South of the road which passes by region (*d*) is a comparatively flat field in which I have noticed one or two tombs, and there may perhaps be some unopened ones here. Vases have been found in the cultivated land immediately south of the settlement, but these may have come from houses lying outside the fortress.

(*a*) The tombs examined in this region were of two main types. The simpler sort consisted of rather irregular pits, sometimes semicircular, sunk close beneath a shelf of rock: as the rock has probably been much worn away, it was difficult to make out their exact shape. Mr. Hogarth opened several of these in 1899, but all except one had been already plundered. This one contained the kernos (Pl. VIII, 15), a large plain vase (Fig. 76, p. 98), a geometric beaked jug, and a good many hemispherical, flat-bottomed bowls stuck one inside another. The other sort was the chamber-tomb, several of which we measured (see below). This type consisted of an underground rectangular chamber cut out of the soft rock. It had a rectangular doorway approached by a short *dromos* (not covered over), which sometimes had a downward slope and sometimes a step. As most of these tombs lay on the west slope of the glen, the entrance was naturally from the east: all over the cemetery in fact the orientation of the tombs depended wholly on the conformation of the ground. The pottery which I picked up in the neighbourhood of these chamber-tombs belonged for the most part to what we have called the geometric style, *e.g.* fragments of beaked jugs and a great many

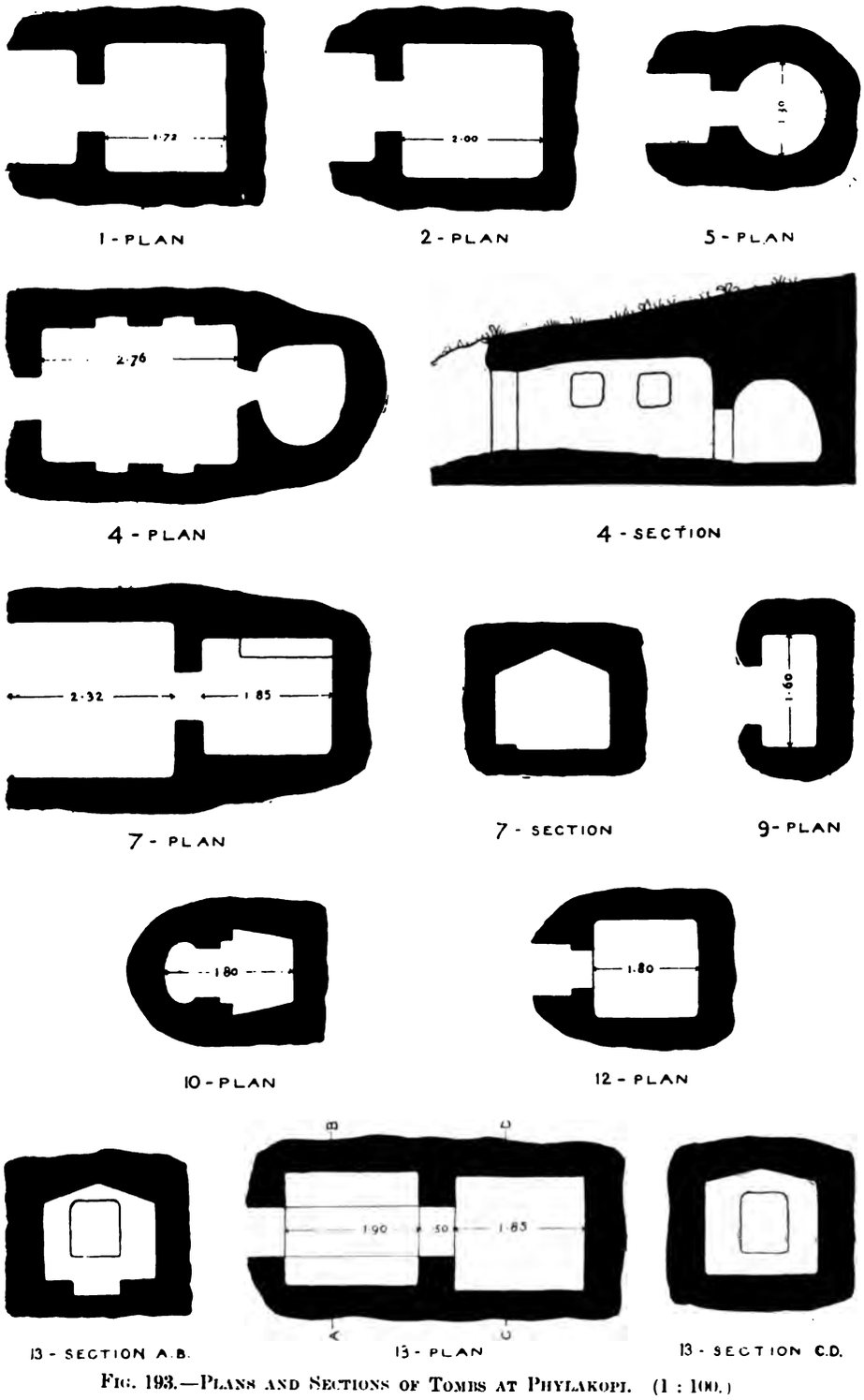

FIG. 193.—PLANS AND SECTIONS OF TOMBS AT PHYLAKOPI. (1 : 100.)

fragments of the earlier class of flat spouted bowls. In one or two places I noted a piece of "imported Mycenaean." None of these tombs, however, was reopened or thoroughly examined. Those that have been plundered are now partly choked up; hence the measurements given below are far from complete. At the top of this little hillside is a large cistern which one can enter by jumping down a few feet. It is a rectangular chamber, with a concave or low-pitched roof, and near the entrance is a large pendant projection like a joist right across the roof, dividing the place into anteroom and inner chamber. It is said to be used as a cistern, though it was quite dry when we were at Phylakopi. But it is a strange site to select for a cistern, and it seems to me that it may originally have been a particularly large tomb. Close by are the rock-cut foundations of a house which Mr. Atkinson pronounced to be modern.

(*b*) Immediately west of the settlement the remains of tombs are very scanty. It was here that Dümmler saw cist-tombs with primitive pottery lying about. In the lowest stratum of the site we found pottery like that from Pelos. Perhaps the corresponding tombs may have been about here or in the cultivated ground close by.

(*c*) Entirely shaft-tombs if I remember right. No. 9 in the following list is a specimen of this type. A few Mycenaean fragments here.

(*d*) The tombs on the west side of the Bathing Creek are mostly quite small. There are no large chamber-tombs here. The most interesting variety is a round small tomb with a sort of low beehive roof. Here also the pottery was chiefly of the local geometric style. On this side of the creek there are a great many obsidian chips as though the material had been worked here. Along the cliff edge too one can find a good deal of natural obsidian but only occurring in small pieces, not nearly large enough to chip a knife from. Is it not possible however that there was a supply of natural obsidian here in the earlier days of the settlement and that it is either exhausted or that the ground in which it was embedded has been washed away? Even at Komia one may search a long time before finding a fair-sized piece of obsidian *in situ*.

(*e*) Full of tombs, both of the shaft-shape and the chamber type. The vase-fragments picked up here range from painted geometric and still earlier types to "imported Mycenaean." There are also many pieces of finely chipped obsidian knives lying about. The triple vase published by Mr. Bosanquet in *B.S.A.*, Vol. III. was found, together with an obsidian razor, in a shaft-grave in this region. Several of the better tombs here (as also on the south hillside) have two chambers.

To date and classify the tombs more strictly would need further work on the site as the indications given by the vase-fragments are very vague. What struck me most was the large amount of local "geometric" pottery in every part of the cemetery.

SPECIMEN TOMBS.

(*a*) On the west side of the little glen south of the settlement :—

1. Open entrance or *dromos* 1 m. long and 1·60 wide, leading to a rectangular chamber with doorway and flat roof 1·72 long and 1·82 wide. Door (?) on right side-wall of chamber.

2. Open entrance 1·55 wide ; doorway ·75 wide ; chamber 2 m. long and 1·90 wide.

3. Open entrance with step 1·15 long and 1·40 wide ; step ·25 broad ; doorway ·40 wide.

4. Two-chambered tomb, with flat ceilings ; corners roughly squared. On each of the side-walls are two irregular, roughly-hewn niches, about ·15 from back to front. The inner chamber is very irregular in shape and only 1·20 high.

(*d*) West of the Bathing Creek :—

5. Small round tomb with *dromos* and apparently a sort of beehive roof.

6. Similar to 5. Diam. 1·30 ; doorway ·50 wide.

(*e*) East of the Bathing Creek :—

7. Two-chambered tomb with gable roof. First door ·75 high. The walls of the inner chamber are well squared and on the left wall there is a low ledge, or pillow for the head of the corpse, ·05 high ; height from floor to spring of gable 1·10 ; height from floor to apex of gable 1·45.

8. Chamber-tomb with gable roof, 1·75 × ·75 ; door ·65 wide.

9. No sign of a roof ; apparently a shaft-tomb. On one side is a step down, about ·40 above floor.

10. 1·80 long, 1·25 broad. Ground plan of destroyed tomb about which I have no further notes. Apparently a shaft-tomb.

11. Rectangular shaft-grave ; floor not paved ; one side built up with stones ; length 1·47 ; breadth ·75 ; depth ·80.

12. Chamber-tomb with gable roof ; height of wall 1·10 ; height of entrance above floor of chamber ·60. This contained some obsidian and two fragments of early pottery.

13. Chamber-tomb cleared in 1899. The main part consisted of two chambers with gable roofs. There was a very irregular approach with remains of burials (prior to the chamber-tomb ?) but I have not any plan or measurements of this. The most distinctive piece of pottery from the entrance was a diminutive pot of same shape as Fig. 67, p. 83, which had originally formed part of a double vase. The fragments from the chambers, which were very scanty, included a few pieces of imported Mycenaean.

C. C. EDGAR.

CHAPTER X.

THE SUCCESSIVE SETTLEMENTS AT PHYLAKOPI IN THEIR AEGEO-CRETAN RELATIONS.

§ 1.—*Introductory.*

SINCE the excavations of the British School at Phylakopi in Melos were brought to a provisional conclusion in 1899 considerable progress has been made in archaeological discovery relative to the Prehistoric Age not only in the Cyclades but further afield in Crete.

Thus for the Cyclades the important recent explorations carried on by Mr. Tsountas in Amorgos, Paros, Siphnos, and Syros have considerably enlarged our knowledge of the early Cycladic Civilization, which is represented in Melos in the earliest strata at Phylakopi.[1]

In Crete again the remarkable results of the excavations at Cnossos (1900–1903) have to be mentioned. Further we have to notice the important work of the Italian Mission at Phaestos (1900–1903) and at Hagia Triada (1902–3), while the British School has also itself taken its full share in archaeological discovery in Crete, as at Cnossos and Dicte (1900), Zakro (1901) and Palaikastro (1902–3).[2] Finally we must not forget the interesting results of the excavations of the American Mission at the Minoan site of Gourniá (1901, 1903).

At Cnossos in particular the range of discovery covered a very wide field, extending from a remote prehistoric era, as yet unrepresented in the results of any discoveries in the Aegean, through a period which has to be correlated with the earliest yet known of in the Cyclades (that represented in the cist-cemeteries), to a time when apparently, equally in Crete and in the Cyclades, the Aegean civilization had reached its prime. Finally at Cnossos, at Phaestos and at Hagia Triada we have equally with Phylakopi the completion of the story in evidence of a decadence to which no later renewal of life was ever destined to succeed.

Meanwhile discoveries on the mainland of Greece, in Italy, particularly Sicily, and in Egypt have been extending the possibilities of comparative

[1] Ἐφ. Ἀρχ. 1898, 136–212, Pls. 8–12; 1899, 74–134, Pls. 7–10.

[2] *B.S.A.* vi.–viii., *Mon. Ant. dei Lincei*, 1902, 9–191, Tav. i.–viii.

reference in a wider context. In this connection it is of special importance that the results of the great discoveries made by Schliemann and Dörpfeld at Hissarlik are now available for comparison, since the appearance of the monumental work on Troy.[1]

In view of discoveries like those to which reference has been made, an idea of the importance of the work carried out by the British School in Melos may be gained from the fact that, notwithstanding later discoveries in the Cyclades, Phylakopi still remains outside Crete the most important pre-historic site in the Aegean. Indeed the results of exploration in other islands go to show that Phylakopi will probably remain for a long time if not always the typical pre-historic site in the Cyclades. It is the only one yet discovered that exhibits the Cycladic Civilization in all the out-standing phases of its development from the earliest beginnings to the era of decline.

§ 2.—*The Earliest Beginnings of Settlement at Phylakopi.*

In considering the successive settlements at Phylakopi in relation to each other and in their wider Aegean relations it will not be necessary here to view these in the order of their discovery. In that connection it will be sufficient to fall back upon what has been said in a previous chapter (pp. 1–13) and proceed at once to the discussion of the settlements in their historical order.[2]

After the discovery in 1896 and the exploration in 1897 of the cist-tomb cemetery at Pelos in Melos, it was natural to expect evidence relating to the same early period at Phylakopi as well.[3] Such evidence had not been forthcoming in the west part of the site where excavation up till that time had been chiefly carried on. When, however, in 1898 our operations came to be extended eastwards, we found, in a circumscribed region east of the palace next the rock and underlying the walls of the earliest period, a deposit which on the domestic side corresponded in character with the tomb-deposit of Pelos. There is no doubt that this deposit was domestic in character, notwithstanding the absence of any definite traces of dwellings. Otherwise, however, it was found to have the marks of gradual and natural accumulation which are characteristic of the undisturbed deposit of very early inhabited sites in the Aegean and elsewhere. Besides, as has been pointed out by Mr. Edgar in his paper on the pottery, 'there was no trace of burial or of human bones.' A burying-place corresponding to this settlement probably existed somewhere not far distant, but it was not discovered by us. On the other hand the settlement answering to the necropolis at Pelos still remained undiscovered when in 1899 work was given up in Melos. The discovery of the primitive settlement at Phylakopi was thus all the more welcome as

[1] Wilhelm Dörpfeld, *Troja und Ilion*. Athen, Beck und Barth, 1902.

[2] See also *B.S.A.* iv. 18–20.

[3] *B.S.A.* iii. 73–4 and 35–51.

to some degree supplementing on the domestic side the tomb-evidence from Pelos.

The area over which this primitive deposit was explored by us was very restricted, partly because our main work up till that time was in another direction, partly because the discovery of the deposit, at such a depth and underlying so many other strata of deposit and wall, came too late in the day for us to be able at that time to carry out the investigation to a satisfactory conclusion. The greatest area tested with positive results was hardly more altogether than some ten square metres, all within the limits of J 1 on the Plans. Our previous excavations had, however, proved for us that it did not exist anywhere on the site to the west of J 1–6. To the south of J 1 again, that is, in J 2, it was found not to occur, and this fact affords a presumption that it did not exist still further south. On the other hand we do not know whether or how far the deposit extended eastwards of J 1, for in the whole region taken up by K and L on the Plans we have nowhere excavated down to the virgin soil. All our knowledge of the deposit has been derived from the test-pit sunk at J 1 : 9 in 1898 supplemented by a test-section made in 1899 a little to the north-east at J 1 : 3. Thus we cannot profess to give any description of the settlement as a settlement but only of the deposit as found by us in the test-pit and in the section. For the same reason the deposit, being also uncharacterized by walls, does not figure on the Plans and is not reckoned with the three cities of which numerical account is taken in this volume.

It will then be sufficiently in accordance with the facts if we regard the deposit as evidence of the very first beginnings of settlement at Phylakopi, for it cannot be said that the evidence points to much in the way of organized settlement until we come to the period represented by the house walls and débris superimposed on this primitive deposit. This deposit itself, as we have said, showed no wall-structures corresponding to it; it consisted only of masses of pot-sherds representative of the kind of pottery in use at that period, mixed up with earth and artificial débris. This latter may have partly belonged to habitations of so simple and perishable a character that little trace of them could be discovered within the limits of a test-pit or two. In such circumstances the most certain evidence was that afforded by the pottery, and the character of that was indicated by Mr. Edgar in his report upon it (*B.S.A.* iv. 39), but even the pottery was so fragmentary that the fuller account now given has only been possible with the help of the Pelos finds.[1]

The pottery, as Mr. Edgar has shown, is closely analogous to that of Pelos. Both belonged to the earlier phase of the civilization represented by the finds from the cist-tombs of the Cyclades, in which the absence of stone-built habitations is probably, as we shall see, characteristic.

The only settlement as yet discovered in the Cyclades corresponding to the earliest class of cist-tombs is the one at Phylakopi. It comes at the

[1] See pp. 82–3, Section 2.

very beginning of the succession of strata, and can be clearly differentiated from what is later in the history of the site.

It is somewhat remarkable that exploration in the Cyclades has not as yet yielded any remains of earlier date than those belonging to this deposit at Phylakopi and the earlier cist-tombs.

If, however, we look further afield we have a different story. At Cnossos in Crete exploration underneath the floors of the palace led to the discovery of early deposits without wall-remains as abundant as that of Phylakopi is scanty. This deposit at the central parts of the Cnossos palace site goes down from six to eight metres beneath the level of the palace floors before virgin soil is reached.[1]

What is still more remarkable than the huge quantity of this deposit is its character of extreme antiquity. All of it but the topmost stratum belongs to the Neolithic Age, and the series of sherds, beginning next the virgin soil with types immensely earlier than anything hitherto known from the Aegean, attains the character of full maturity and then of decline and transition before forms begin to appear betraying any influence of metal shapes or any other characteristic features in common with the pottery of the Cycladic series. Thus the neolithic inhabitants of Cnossos had already passed through the phases of a long development and the prime of their civilization before the settlement of Phylakopi was so much as thought of.

If this fact is borne in mind it will enable us to assign to the earliest beginning of settlement at Phylakopi its proper historic place in relation both to what is earlier at Cnossos and to what is later at Phylakopi, in the Cyclades, and in Crete.[2]

A further remarkable feature of the neolithic deposit of Cnossos was that throughout the formidable depth of 6-8 metres and extending over the whole Cnossos hill no trace of walls indicative of stone-built houses was anywhere discovered.[3]

If, now, the beginnings of the Cycladic Civilization are to be put in a relation of direct sequence to the latest phase of the neolithic development, then we have an explanation of the fact that apparently the earliest Cycladic people also lived in houses which, if in some respects probably an advance on the old neolithic huts, were of equally perishable material. This fact would account for the difficulty of finding the habitations answering to the early cist-cemeteries at Pelos in Melos, in Paros and elsewhere.

Burials answering to the neolithic house-deposit have been found neither at Cnossos nor anywhere else in Crete. Neither, so far as yet known, have graves been discovered in Crete belonging to the same period as the early cist-tombs of the Cyclades. Until these are forthcoming it will not be possible to make out with much precision the relation of sequence in which the

[1] *B.S.A.* vi. 6-7. vii. 2 and note 1; *J.H.S.* 1903, 157-164.

[2] *ib.* 164.

[3] The remains of a wall with an angle in juxtaposition to neolithic deposit at Phaestos reported by the Italians, *Mon Ant. Linc.* 1902, p. 22, in view of the evidence from Cnossos, are probably to be assigned to a sub- or post- neolithic date.

Cycladic civilization stands to the antecedent neolithic development. We can only at present infer a continuity of development, from the fact that a continuous deposit represents the transition between neolithic and sub-neolithic at Cnossos, and also from the correspondence which exists between typical ceramic forms in the Crete of this period and those of the (presumed) habitations and graves of the early Cycladic people. At the end of the Cnossian neolithic series the old traditional use of white-filled incision, showing light on a dark hand-polished ground, begins to appear in conjunction with typical early metallic forms; these mark a new phase of development in ceramics, and in relation to them the ceramics of the early cist-tombs seem to represent derivative forms.

What is true of the central Aegean region holds with still greater emphasis of the more distant and outlying parts of the East Mediterranean Basin. Thus, for example, we must be on our guard against assigning to the genuine neolithic series the pottery with incisions filled with white chalk-pigment from the First Settlement at Hissarlik.[1] Similarly the earliest known pottery from Sicily, usually called neolithic, is really of sub-neolithic date.[2] All of this outlying pottery comes into the same general context as the sub-neolithic ware from Cnossos and the early cist-tomb pottery of the Aegean.

There is, however, another point of view which gives superlative importance to the neolithic deposit at Cnossos. Nothing at all in that deposit justifies us in concluding that there is any break in racial continuity to be bridged over in the period which saw the inauguration of the use of metals and the transition from purely neolithic ceramic forms to the Cnossian equivalent for the early metal-age ceramics of the Cyclades. Neolithic evidence like that of Cnossos may one day be forthcoming in the Cycladic area itself. Meanwhile there are enough data afforded by the rich neolithic strata of prehistoric Cnossos to establish the primary fact of ceramic and so of race continuity. And these data are sufficient not merely to establish the continuity subsisting at Cnossos itself between the civilization of the neolithic people and that of the Minoan race of Crete. They also enable us to postulate an identical Aegean neolithic race as the ancestors of the Cycladic people, of whose civilization we have evidence, in the deposits of the cist-tombs, of early settlements like the one at Phylakopi and of later settlements both at Phylakopi and elsewhere in the Aegean.[3]

[1] See *Troja und Ilion*, 251. The neolithic character of the 1st Settlement at Hissarlik, regarded as not certain by the Germans themselves, is rendered still more problematical through the difficulty of conceiving the highly developed Bronze-Age civilization of the 2nd Settlement as following directly on a Stone-Age civilization without the intermediary phase of a Copper-Age period (see *ib.* p. 325). This difficulty disappears on the view that the 1st Settlement at Troy belongs itself to the sub-neolithic period.

[2] Petersen, *Röm. Mitth.* 1898, 163, expresses doubts regarding the genuine neolithic character of the deposit at Stentinello which have since been confirmed by later discoveries. Thus vases from Matrensa, now in the Syracuse Museum, answer to the Cycladic types illustrated on p. 83, Fig. 67, Pl. IV. 3, etc.

[3] A suggestive Mediterranean parallel to this continuity occurs in prehistoric Sicily, where Petersen, in the light of Aegean affinities, has clearly shown the essential connection in development between the pottery of the

But this fact of race-continuity leads to certain conclusions which must not be left out of account here. In the first place it of itself disposes of any view as to the origins of the Cycladic race which would put the first appearance of that race in the Aegean subsequent to the very remote era represented by the earliest deposit next the virgin soil at Cnossos. In the next place it *a fortiori* excludes any view which would assign the origin of the Cycladic race to any external influence which might be conceived as arresting the course of native development and inaugurating an absolutely new beginning at any later stage. The evidence from Cnossos thus enables us to substitute an internal for an external conception of development. In other words, it enables us to refer the origin of the Aegean civilization to the native neolithic people of the Aegean rather than to the foreign Carian race of Asia Minor whose earliest known remains in Asia Minor itself are hardly older than the eighth century B.C.[1]

§ 3.—*The First City.*

Having taken account of all the available data concerning the earliest Cycladic period, we next find ourselves concerned with deposit referable to the First City at Phylakopi. But here we are not to suppose that there is any break in development corresponding to the interval in the record between the primitive deposit found at J 1 (and nowhere else on the site) and the deposit found on the floors of the stone-walled houses of the First City. That floor-deposit in the case of each separate house is a record only of objects in use in that particular house at the moment of its abandonment. It is not a record referable to the whole history of the habitation from the time of its first construction. The missing data have been dispersed on rubbish heaps or concealed in tombs. As long as these tombs remain undiscovered the data are wanting, and we have often in make-shift fashion to supply the missing links in the chain of evidence by means of comparative data procurable elsewhere.

1. It was in 1898 that we discovered that the First City did not itself represent the initial stage in the history of the site, but that it was to be regarded as, in turn, sequent upon a still earlier occupation. At the time

earliest Sicilian period, referred to above, and the later ceramic series. See *ib.* 170–191.

[1] See Paton and Myres, *J.H.S.* xvi. 264–270. The explorations of Messrs. Paton and Myres in Myndus, especially at Assarlik, have gone to show the completely anachronistic character of the Carian hypothesis regarding the sources of the Aegean Civilization. The remains clearly show -not that a Carian civilization, culminating in a Carian Sea-power, was antecedent to a Minoan Empire of the Sea in Crete and the Aegean—but that the last reminiscences of the Minoan Sea-power and of Aegean culture were anterior to, and in their survivals became absorbed into, the Carian Sea-power and polity on the Asiatic coast in the seventh and sixth centuries B.C. See *ib.* 266–7. The evidence excludes the Carian theory with equal cogency whether that be made to account with Furtwängler and Loeschcke for the Cycladic, or with Dümmler and Studniczka for the 'Mycenaean' civilization; see F. and L. *Myk. Vas.* vi.; Furtwängler, *Antike Gemmen*, iii. 15 and note 1; Dümmler and Studniczka, *Ath. Mitth.* xii. 1–24.

I pointed out an instance of a settlement, discovered by myself in S.W. Naxos, in which stone-built habitations were found contiguous to a cist-tomb necropolis, and suggested the explanation that the more primitive time, in which the Cycladic people lived in perishable huts like their earlier kin of neolithic Crete and buried their dead in cist-tombs, was succeeded by an era in which they began to build stone-walled houses; though they still continued to practise the same burial usages in a more advanced form in the same cemeteries.[1]

Since that time another settlement of this kind has been explored by Mr. Tsountas at Pyrgos in S.W. Paros, and the results are in agreement with my conjecture about the Naxos site. The pottery found in the Paros settlement was seen at once to be of a more advanced character than that usual in the cist-tombs of the island. Of course the explanation is that the settlement with its stone-walled houses belongs to a later stage in the history of the Cycladic people than the earliest cist-tombs; not that, as Mr. Tsountas suggests, the furniture of the tombs represents traditional survivals of primitive types for burial-usage, the tombs being thus really contemporary with the settlement.

Mr. Edgar's study of the pottery affords independent confirmation of this view, for he distinguishes between a more primitive kind of ware found in the lowest half-metre in the test-pit J 1 and nowhere else, and a later variety found near the bottom of the test-pit in J 1 but also elsewhere on the site.[2] This more advanced kind of ware at Phylakopi is co-ordinated by Mr. Edgar with the more advanced pottery of Amorgos and with the similar ware found by Tsountas in the settlement at Pyrgos. There can be no doubt that the Phylakopi ware of this later class has to be assigned to the general period when stone-walled houses began to be built in Melos.[3] In other words, the ware in question is from deposit which has to be assigned to the earliest houses of the First City.

In this reference it is important to distinguish between waste-deposit, which, from the character of the finds in it, can be assigned definitely to the earliest period of a settlement, and deposit which must be referred to that settlement as a whole.

A case in point of this latter character is furnished us in the waste-heap of obsidian cores, chips, and flakes at the W. end of the site in B. C 5. The existence of this great obsidian deposit affords us an important clue, not only as to the probable causes which chiefly contributed to the original settlement of Phylakopi, but also as to the chief source of the prosperity which made Phylakopi afterwards for a time perhaps the most important site in the Cyclades.[4]

As early as the first beginnings of settlement at Phylakopi the use of

[1] *B.S.A.* iv. 23.

[2] P. 82, section 2 and p. 85, section 3.

[3] A settlement with stone-wall houses contemporary with the one at Pyrgos and with the earliest elements of the First City at Phylakopi exists at Samari in W. Melos. See *B.S.A.* iii. 85–88, iv. 22–23. Also above p. 86 where potsherds from this site are cited.

[4] See Chapter viii.

obsidian was known in Melos, for implements in this material were found in the tombs of Pelos.[1] Melos itself possesses vast natural supplies of this volcanic substance, and it is certain that already by the time of the early First City the possession of this material and the working of it formed the chief source of prosperity at Phylakopi. The superlative importance of the possession is enhanced by the fact that Melos is the only site in the Aegean known to possess obsidian. The great neighbour of Melos to the south, the island of Crete, has no obsidian, so that the Cretan implements of this material are almost certainly from Melian obsidian if not manufactured in part in Melos itself.[2]

This fact opens up a long vista in the history of the early intercourse between Crete and Melos; for on the evidence this intercourse between the two islands must have lasted onwards from the time of the early cist-tombs to the era when the general use of obsidian implements begins to decline. The Melian obsidian industry must, however, have had markets further afield than Crete. Obsidian is not known to exist on the European side of the Aegean area anywhere nearer Greece than Hungary, Lipari, and Pantelleria, or on the Asiatic side anywhere nearer than Russian Armenia.[3] Thus the obsidian weapons of Tiryns, Mycenae, and even of Troy, are all probably derived from the Melian market.[4]

The areas of supply in the case of flint are much more common than are the sources of obsidian, but in this prehistoric industry also Melos probably played quite an important *rôle* in the Aegean commerce of that period. Thus the obsidian site of Komia in E. Melos gives place northwards to a flint region that extends all the way to Phylakopi. The flint saws (p. 194) of Phylakopi, as well as the chipped shore-pebbles for striking fire, so common on the site, are probably most if not all of them from this region.[5]

That this industry in obsidian attained to considerable proportions at Phylakopi during the period represented by the remains of the First Settlement is evidenced by the large dimensions of the waste-heap of rejected cores, flakes and chips from the obsidian work-shop, contiguous to house-walls of this era at the west end of the site, to which reference has already been made. To the same early period must be assigned the origins of the vast deposits of refuse from obsidian work-shops which form so characteristic a feature of the great quarries at Komia and Adamanta. The remains of early walls on both sites probably belong to the work-shops and huts of the quarry-workers from the great emporium at Phylakopi.

There is evidence enough that once the obsidian trade was started at the prehistoric capital of Melos and at its dependent stations at Komia and

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[1] *B.S.A.* iii. 42.

[2] Lumps of obsidian found at Cnossos I recognised as identical in character with the kind of obsidian existing in the great quarry W. of Adamanta in Melos. For the Melian obsidian quarries, see above pp. 216–8. For a possible early source of supply to the west of Phylakopi, see p. 236.

[3] See Hoernes, *Urgeschichte der Kunst*, 699; *Mon. Ant. Linc.* ix. 457, 464: and *B.S.A.* iv. 2.

[4] In *Troja und Ilion*, 387, Melos is cited as the possible source of supply for prehistoric Troy.

[5] See *B.S.A.* iii. 77, and p. 224 above.

Adamanta it had a long duration of prosperity. But there remains the prior question as to whether the obsidian quarries of Melos were known at an era preceding that of the cist-tombs. Evidence from the Cyclades is lacking, because no remains have as yet been discovered in that region that go back to a period preceding that of the earliest cist-tombs and the first beginnings of settlement at Phylakopi. The great neolithic deposits of Cnossos on the other hand reach back to a remote pre-Cycladic era. In these the evidence forthcoming shows that in neolithic Cnossos obsidian was already in use long before the period when the finds in the deposit come to have characteristics that bring them into one general relation of immediate antecedence to those of the early Cycladic period.[1] If then we put the knowledge of obsidian in the Neolithic Age in Crete into relation with the fact that at Phylakopi the earliest beginnings of settlement belong already to the dawn of the Cycladic civilization, the conclusion will be safe that the industry in Melian obsidian and the Aegean commerce in it began to be a factor in Aegean civilization long before the first foundation of the prehistoric capital of Melos at Phylakopi. The great obsidian quarries at Komia and Adamanta were probably at first independent stations exploited directly from without in the Neolithic Age, and it is only in course of time that we can conceive so much organization as would have tended to centralize the trade at the emporium of Phylakopi.

The presence of obsidian in the First Settlement at Hissarlik, if this obsidian is Aegean, is in harmony with other indications that the founding of prehistoric Troy occurred somewhat earlier than that of the great Aegean obsidian emporium in Melos. That the commerce with the Troad was one of long duration and growing prosperity in the later period is vouched for by the fact that the mass of the obsidian is assignable in a general way to a period ranging from the Second to the Fifth Settlements at Troy.[2]

It was not otherwise with the mainland of Greece. Here again indications are now forthcoming of a knowledge of obsidian both in the Peloponnese and in Upper Greece, as early at least as the era immediately anteceding that of the Cycladic civilization.[3] Again, if the obsidian arrowheads, belonging to a much later era, which were found in one of the shaft tombs, are of Melian obsidian, then we have a guarantee of trade-intercourse between Melos and the Argolid during the great days of Mycenae.

But given the lack of obsidian on the whole of the Greek mainland it could not have been very different with the trade relations between Melos and the upper parts of Greece. The Saronic Gulf with its islands of Aegina and Salamis and the island of Euboea with its long strait of sea are the natural prolongations into the Greek mainland of the Aegean. The trade-connections that we are able to conjecture between the Aegean and the Argolid could not have been less intimate with Attica[4] and, at a greater

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[1] See *B.S.A.* viii. 123.

[2] See *Troja und Ilion*, 386-7.

[3] For the evidence see pp. 222 and 228 above.

[4] For obsidian arrowheads in prehistoric Athens, see p. 223.

remove, with Thessaly. And Thessaly with its great outlook inland of expansive plain and fertile valley must in those days have formed the great mainland end-station on the high trade-route between the Aegean and Central Europe.[1]

In the present state of the early evidence it is not as yet possible to say whether the rudiments of the great Aegean League, of which the hegemony was later in the hands of Crete, had at this early period attained to such consistency as could have already enabled Crete to play any leading *rôle* of mediation in the trade-intercourse between the Cyclades and the mainland of Greece. The fact, however, that from a very early period Crete is in command of the trade of the Libyan sea, especially in its relation to Egypt, involves by implication an extension of this influence into the Aegean.

Obsidian worked into beads occurs in Egypt in the mature prehistoric age answering with some probability to the mature neolithic period of Crete (sequence-date 50–60). Obsidian flake apparently occurs already in the middle prehistoric period (sequence-date 40–50), and it is not likely, in view especially of the neolithic data from Crete, that we shall ever get further back than this with the Egyptian evidence.[2]

With the early Dynastic Period we find the working of obsidian at a stage of development to which, so far as we know, there is nothing to correspond in the Aegean itself. Thus obsidian vases occur in Egypt in tombs of the early Dynasties at Abydos and up to the Sixth Dynasty at Denderch.[3] If, as is probable, the obsidian of Egypt is the Aegean variety found in Melos, then it is likely that Crete acted as intermediary in the traffic, just as she seems to have done in the case of the liparite from the Aeolian islands which formed the raw material for the liparite vases likewise found in early Dynastic tombs.[4]

This intermediary *rôle* of Crete in the trade between the Aegean and Africa would explain the fact that, while the fine black obsidian found in prehistoric and early Dynastic Egypt is probably Melian, we have no evidence of direct intercourse between the Cyclades and the Nileland answering to that which is so noticeable between Crete itself and Egypt.[5] That this intercourse, so important for the internal development of the Aegean, went back to a remote prehistoric past, is proved by the recent finds, not only in Crete but in Egypt, to which reference has just been made.

We have already seen that the obsidian industry, started apparently

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[1] In Thessaly, very early pottery with geometric design in lustrous glaze has recently been found which has the closest analogy with the earliest painted geometric ware of the Cyclades and of Crete. In the present state of the evidence it is more likely that this glaze technique was derived from the Aegean than that the Aegean people acquired their knowledge of lustrous glaze from Thessaly.

[2] Petrie, *Diospolis Parva*, 23, Pl. iv. 1. For these sequence-dates, see *ib.* Ch. I.

[3] Petrie, *Denderch* 8, Pl. xxi. 3 (the two cups below).

[4] See in this connection *B.S.A.* viii. 1902, 121 4. A lump of liparite several pounds in weight of rough pyramidal shape admirably adapted for conversion into a vase-form was found in the excavations at Cnossos in 1903.

[5] But see p. 228, for a possible African source.

some time in the early Neolithic Age, had already reached large proportions in Melos by the period to which belong the earliest elements of the First City at Phylakopi. By this time accordingly trade-intercourse between Crete and Melos must have been on a considerable scale. The comparative evidence furnished by the ceramic finds points in the same direction. We found at Phylakopi that a series of potsherds overlapping the pottery of the earliest Cycladic period in the test-pit in J 1, but occurring also elsewhere on the site, could not on the other hand without further ado be equated with what was elsewhere found more or less intact on floors of houses of this general period. The indications were that this fragmentary pottery belonged to deposit of a more or less dispersed character referable to the earliest elements of the First City. This earliest painted geometric ware—that with lustrous glaze design, especially the variety with glaze slip—is so like the painted geometric Cretan ware with similar lustrous glaze design or slip found in similar deposit at Cnossos, that most if not all of it gives the impression of being an importation from Crete.[1]

With these indications, however, we come to the limit of our data referable to the earliest period of the First City at Phylakopi. The outlines of the historic picture can only be filled out by the aid of finds of the same period from other sites such as those already available for comparison from Paros, Amorgos and Syros.

2. With the deposit found on the floors of houses of the First City we are on surer ground.

Pottery found in floor-deposit has to be associated with the remains of wall-constructions that belong to a maturer period. Thus of the wall-remains marked yellow on the plan we are not able definitely to assign any to the earliest period of the settlement; some of the pottery however may belong to an earlier period in the life of those same houses, while some of it again probably belongs to houses that have disappeared before the period to which the earliest floor-deposit belongs. On the other hand, we cannot definitely assign all these constructions to the final period of that settlement. There are indications which enable us to distinguish earlier from later constructions.

Falling back on the architectural illustration and description of the wall-remains of the settlement as a whole given on pages 21–23, it will in this connection be sufficient from the point of view of development if we bear in mind the following facts of a general character:—The First City is not like the later ones a fortified city, but an open town. On the other hand like the later settlements it has its walls in a general way orientated east-west and north-south. Like the later towns, its constructions consist of earlier and later elements.

The data referable to the earlier elements of the First City, represented by pottery in a fragmentary condition from stray deposit, have been considered above.

[1] This view is also expressed by Mr. Edgar, p. 87.

The maturer period which we are now discussing is represented by undisturbed floor-deposit and by pottery more or less intact, found in particular instances in that deposit on house-floors which had apparently been covered up before the final period of the First City to which the floor-deposits as a whole belong.

The characteristic series of vases Pl. **IV.** 1–10 is from such deposit. Thus, for example, the pyxis Pl. **IV.**, 1 was found inside a pithos of the same class as **XXXIV.**, 1 in a house at E 3 : 11 whose floor-deposit, according to all the indications, was covered up at a period long anterior to the closing one of the settlement.

Equally typical of this period and of this kind of deposit are the vases 6, 8. If one compares with those vases the beaked jugs Pl. **IX.**, 1–10 one sees that typologically at least the painted variety has emerged as a development from the incised class. Yet typical specimens in both classes were found in the same floor-deposit in a house of this period at G 2 : 10. Thus we cannot say that the painted beaked jugs are actually a derivation from the dark-faced vases of the duck class, but that they go back to one prototype with those, and that the duck vases actually found along with the painted beaked jugs are a rudimentary survival from this prototype alongside of the more developed painted class. The jar-types Pl. **VIII.**, 4–6 and the lids 1, 2, 3 belong to floor-deposit of the same period. The vessel 6 was actually found in G 2 : 10 along with the vases above referred to.[1]

These prototypes as well as the originals of other types of vases found in floor-deposit must have come into use in the early period of the First City. It may be conjectured that these types at that time belonged chiefly to the incised class with dark ground. Alongside of these began to appear the wares of Section 3 with lustrous glaze geometric design, dark on a light ground, which we find beginning to be characteristic of this early period, though probably not as native productions but as importations. We can be certain that wares with geometric design appearing light on a dark ground began to be imported about the same period. Some time well on in this early era the Melians adapted the glaze technique to their own clay, producing a general effect which, on account of the porous character of their clay, was never able to attain the distinctness of outline or the lustre of the foreign designs. The consummation of this tendency was effected in the era represented by the floor-deposits to which we have just referred. In this second period accordingly we have a prime of ceramic art, amply attested by the contents of those floor-deposits, in which wares with white-filled incised geometric design appearing light on a dark ground co-exist with painted wares having more or less lack-lustre geometric glaze design appearing dark on a light ground. The preference for models in this technique was based on extrinsic reasons. The Melian potters had special difficulties to contend with on account of the porous character of their clay, which did not easily

[1] The fragments on Pl. V. belong to the same sort of deposit.

admit of the application of a glaze slip which should have the lustre of the Cretan models. Thus from the very beginning of the use of paint in Melos the technique with light design on a dark ground was never able to compete on terms of equality with the other style of dark design on a light ground.

3. There is, however, sufficient evidence that the geometric tendency itself survived into an era when incised ware of the same class as the 'duck' vases had gone out of use. And in this process of disappearance the gradual substitution of painted light design for white-filled incised design on a dark ground played an essential part.

The floor-deposits belonging to the closing period of the First City show us this process of substitution completely accomplished. In these deposits the old time-honoured technique of white-filled incised design on a dark ground is seen to have disappeared, and the technique with painted light design on a dark ground is found to have entirely taken its place alongside of, and in subordination to, the other technique of painted dark design on a light ground.

The wares with geometric design appearing light on a dark ground in imitation of the white-filled incised designs are at first contemporary with the wares imitated, but taken as a class they become characteristic of a later date, that of the closing era of the First City. The fragment Pl. **X.** 20, for example, with light design on a dark ground, belongs to a jar like Pl. **VIII.** 4 with the more usual dark design on a light ground, but the advanced character of the geometric design in the case of the fragments Pl. **X.** 18, 19, 21, 24, 26 marks the vessels to which those fragments belong as typical of a maturer stage of development, and one that has left the practice of incision entirely behind. When once it was found possible to paint the light design on the dark ground instead of filling it into the incisions on a dark ground, the incisions were found to be superfluous and fell into disuse.

There can hardly be any doubt that an important part in this process was played by the tendency now observable for the first time towards curvilinear schemes of design. Free-hand incision does not readily lend itself to curvilinear motives, and when those first begin to appear under the formative influence of the brush, it is noticeable that at the transition stage the curvilinear schemes in incised pattern are sometimes produced by the device of stamping. This stage is, however, soon left behind, and by the period of which we are now speaking the development of curvilinear design is continued in the medium of paint alone.

I have already pointed out that typical specimens of painted beaked jugs like Pl. **IX.** 2 were found along with incised vases of the 'duck' type in floor deposit belonging to an earlier period than that now in question. The majority of the beaked vases on Pl. **IX.**—those with rudimentary curvilinear motives—belong, however, to the floor-deposit of houses that had not become submerged until the final period which saw the catastrophe of the First City as a whole. They are thus important as showing us the sort of

ware in use and the stage reached by curvilinear design in the latest period of the First City.

We must not however overlook the fact that at this period the parallel technique of light design on a dark ground still continued in use: by this time it had fully supplanted the old technique of incision. Thus, for example, the vase **XIII.** 19, with its caricature of an early zig-zag pattern of a purely geometric type like that of the similar vase, **VIII.** 5, may be taken as typical of a style of design that was common in the last era of the First City. The vase was found at H 3:3 in the floor-deposit of a house of the First City, belonging to the series that had become submerged at the close of the last period of habitation. It was of course accidental that no complete specimen of a vase in this technique with curvilinear motives was found, and the fragments **XIII.** 12, 15 may accordingly be taken as belonging to the same period. There was still apparently a reminiscence of this house at a later period, for some of the walls of an important house of the Second City were built on to the stumps of walls of the earlier house.[1]

The inauguration of the use of matt black paint is to be assigned to this period. One of the indications which enabled us to distinguish certain floor-deposits as earlier than the generality was the non-existence in these floor-deposits of ware with lustreless black paint, while its presence was a common occurrence in the floor-deposits belonging to the period of general catastrophe that ended the existence of the First City. At this period this lustreless black design-medium appears in contemporary use alongside of lustrous dark glazes and lustreless white paint. There is no doubt, however, that for Melian ceramics the introduction of this pigment afforded the true solution of the practical problem how, with the porous Melian clay, to produce design that would really appear dark, if not lustrous, on a light ground alongside of the lustreless light design on a dark ground. By means of this colour-pigment the dark character of the design was attained at the expense of a lustre that on the porous Melian clay was never brilliant. On the other hand the durable character of the glaze enabled it to survive alongside of the new medium.

This kind of matt black paint, as an alternative to the older lustrous glaze medium alongside of the lustreless white design-medium, is so characteristic of the succeeding era, that in absence of evidence to the contrary one would be tempted to make a division in development after the catastrophe which submerged the floor-deposits of the First City and assign the first use of the new medium to the beginnings of the Second City.

The evidence to the contrary is, however, decisive. In repeated instances at different parts of the site ware with design in this medium was found in floor-deposits belonging to the final period of the First City. Several of the specimens figured on Pl. **XI.** have to be mentioned in this connection. Thus, for example, the twin-vase 12, with several other frag-

[1] See p. 36, Fig. 22.

ments of the same type of vessel, was found in floor-deposit of this period at H 2 : 17. In the same deposit occurred two cups like 9 and 11 and a spouted bowl like 7 and 8. In the next space to the east J 2 : 9 along with fragments of similar bowls occurred a similar vessel of deeper, higher shape, but without the spout and suspension handle and with geometric design in this medium on a light-ground slip which covered the whole outside. Further, two spouted bowls like 7 and 8 were found in floor-deposit of the First City underlying the floor of the west pillar-room at G 3 : 4 and in the same floor-deposit with those occurred a bowl like Pl. **XXXIII.** 1, 2. In similar floor-deposit, again, at F 2 : 7 occurred the spouted jug Pl. **XI.** 15 along with two fragments of exactly similar jugs, one member of a double vase like 12 and two specimens of spouted dishes like 7 and 8. In G 2 : 15 occurred fragments of a kernos with lustrous glaze design like Pl. **VIII.** 14 in floor-deposit which, though disturbed by later construction, unmistakably belonged to this period. The last era of the First City is accordingly the period of mature development for this type of vase. Alongside of this advanced type with its traditional glaze the twin-vase 12 is a rudimentary survival of the prototype, disguised in the new-fangled matt black design. The curious vase with perforations surrounded by rings in matt black paint, referred to *B.S.A.* v. 5, was found in similar floor-deposit in the next space to the north.

To come now to general relations. It has been already suggested that the wares with design in lustrous glaze, which in the earliest era of the First City occur alongside of the dominant incised ware of the period, were an importation presumably from Crete. The Melian industry in obsidian and the Aegean trade in this material, which had already apparently attained to considerable proportions, must as a matter of course have been a constant stimulus to such exchange of commodities as the presence of this foreign pottery implies.

In course of time, however, the Melians were able to adapt the new glaze-medium to their own clay and to develop a native style of painted pottery. In the floor-deposits to which the duck-vases belong we see the process of adaptation accomplished, so far as concerned the style with dark design on a light ground. The Melians now have arrived at the stage when some of the native wares find their way to foreign ports along with their obsidian. And there is some evidence of this from Crete. In the geometric deposits of Cnossos it was noticeable that, while the bulk of painted wares with their lustrous glaze designs or their lustrous glaze grounds were of native manufacture, a certain proportion of fragments had the appearance of being foreign productions. Among those were potsherds that with their porous clay, their pale clay slip and their lack-lustre glaze—tending so often to be a dull red when it was originally meant to be black—so clearly resembled the early native geometric ware of Phylakopi in just those characteristics, that the vessels to which the fragments belonged were almost certainly importations from Melos. The kind of ware in question is that illustrated on Pl. **VIII.** 4, 7, 10, which has been already referred to as characteristic of the

prime of the First Settlement. Into the same class come the fragments Pl. X., 1–17 with dark design on a light ground.

Cretan influence becomes still more marked in the case of wares with light design on a dark ground like the fragments Pl. X., 18–27. Owing to the porous character of the Melian clay the adaptation to native usage of this style was apparently slower and less successful than in the case of the other. In course of time, however, it was found possible to paint with the light pigment on the lustrous red or black native medium of the incised vases which was employed as a substitute for the lustrous Cretan glaze. In Crete the two styles of light on a dark, and of dark on a light ground are contemporary from the very beginning of the use of paint in ceramic art. In Melos also under the influence of Cretan importation, as is apparent from the parallel examples brought together on Pl. X, the two techniques are also practised contemporaneously at this time. But in Melos, in contrast with what took place in Crete, the style with light design on a dark ground always remains at the rudimentary stage; it is always subordinate and accessory to the other style, and it never, like the other, becomes developed into a distinctive Melian style. In Crete the two techniques run a parallel course on a footing of equal competition, tending towards the ascendency of the polychrome principle of light design on a dark ground in the great Minoan period of the First Palace at Cnossos, and the final triumph of the monochrome principle of dark design on a light ground is only accomplished in the late Minoan Age.[1]

It is characteristic of the painted pottery of Crete that, while the glaze is lustrous in character, all other design media are matt or lustreless colours. Among these, however, the matt black, which as a substitute for the Aegean glaze begins to play a part in Melian ceramics towards the end of this period, never appears. This design-medium accordingly cannot be derived from Crete. On the mainland and in Aegina on the other hand, as Mr. Edgar points out, the oldest painted designs are in matt black. The negative evidence from Crete is thus in harmony with this coincidence of the same matt technique in Greece and in Melos, and goes to confirm Mr. Edgar's view that the matt black design medium must be a derivation from the mainland.[2] If this is so then we have once more an instance of the variety of inspiration that in the course of trade-relations came to play a part in the development of Aegean ceramics, and so indirectly of the variety of influence that went towards the formation of the Aegean Civilization. The Melian commerce in obsidian opened up channels of intercourse for the island which gave her a social hegemony among island communities, and her widening trade-relations with the outside world of Crete, of mainland Greece and of the Anatolian coast-lands, go largely to explain the pre-eminence of the *rôle* she now begins to play in the development of Cycladic art.

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[1] See *J. H. S.* 1903, pp. 165, 170-9.

[2] See p. 93 and *J. H. S.* 1903, 166. Compare, however, the matt black of the closely analogous contemporary painted geometric ware of Sicily.

Of all these different relations there is no doubt that for Melos, as regards her own internal culture, the most important were those with Crete, conditioned as these were by an advantage of geographical position which brought Melos into the high sea-way from Crete to the North.[1]

We have already mentioned the discovery of Melian pottery with geometric design at Cnossos. The occurrence on this kind of ware of potters' marks or signs representing in rudiment an early Cycladic phase of the later developed system of writing of Minoan Crete is not without its significance.[2] In Melos these signs occur already in the earliest floor-deposits and attain to a maximum of prevalence in the latest floor-deposits of the First City at Phylakopi. Accordingly the evidence from Melos is to the effect that the first simple use of conventional signs to express an intelligible meaning can be traced back to a very early period in the Cycladic Age. And to judge by the example of Melos, at an era contemporary with the last period of the First City at Phylakopi, the use of written signs in this simple sense must have attained to general currency over the Aegean. The occurrence in Crete of Melian ware, of the same class as that which has the early potters' marks, affords indication that in the extension of the use of these conventional signs the trade-relations of Crete with Melos and the Cyclades generally played a dominant part. This extension over the Aegean region of a common system of simple conventional signs to express a mutually intelligible meaning presupposes in its turn homogeneity of race and language over the same area. And this same homogeneity through all the differentiations of its long development seemed to be confirmed by a study of the deposits of Cnossos from the earliest Neolithic times. The written signs of Melos thus form an important link in the chain of evidence which, in a homogeneity of race and language that goes back to the Neolithic Age, connects the Cycladic civilization of Melos with the Minoan culture and letters of Crete in the second millennium before our era.

§ 4.—*The Second City.*

From the condition of the floor-deposits which were assigned above to the closing period of the First City it is evident that they were all submerged as the result of some catastrophe of a general character which affected the life of the community as a whole.

This fact leads to the consideration of periodic stratification in its general bearings:—Each great wall-stratum at Phylakopi represents a distinct historic period and a distinct phase of civilization. The fact that it has been found possible and necessary to disentangle these strata by means of separate plans is sufficient guarantee that this is so. A separate plan of

[1] The recent discoveries at Orchomenos—so important in their bearing on prehistoric development on the mainland in relation to the Aegean—show how intimate the intercourse of Crete with the North became at a later time.

[2] For these potters' marks and their Cnossian relations see pp. 177–180 with the table of signs on p. 179.

the constructions of the first period was not attempted simply because of the difficulty of tracing out the systematic connections of wall-constructions so incompletely excavated as those of the First City and so much obscured besides by the intricate net-work above them of the walls of the second and third periods.

Given the difference that these interconnections were more rudimentary because earlier, the walls of the first period showed the same organic relation towards each other, and the same thoroughgoing disconnection from the walls of the second period above them, as these in turn showed from those of the third period.

It is principally in view of this break in continuity between the wall-constructions of one stratum and those above it, that we are at all warranted in speaking of distinct periods in the history of a site like Phylakopi. And it is only after all the evidence, yielded by the finds from the stratified deposit corresponding to those walls, has been taken into account, that it is possible to bridge over the break in continuity recorded by the walls, and to affirm that, notwithstanding that break, there has been a fundamental race-continuity to account for the continuity in the character of the deposit-record. On the other hand, had this interruption of the even course of development not been of a general character, the majority of the constructions would have shown organic connection as parts of one town with the later structures, and instead of two towns built one above the other we should have one town with earlier and later constructions; instead of two thoroughgoing stratifications we should have one with earlier and later elements, and finally instead of two periods of civilization we should have one with earlier and later phases.

1. In the preliminary reports on the excavations it has been pointed out that no existing part of the fortifications can be put into relation with the constructions of the First City: that indeed at the west end of the site, at B 5:9, the strong wall after an interval of earlier deposit goes right over these constructions.[1] Neither were we able at any other part of the site to find any trace of strong wall that could be taken to belong to the same stratification and period as the constructions of the First City. The conclusion was that the first settlement at Phylakopi, while indicating community of life among its inhabitants, was an open town without fortifications.

As a result of exploration in Melos and elsewhere in the Aegean several parallels for such life in open towns have been forthcoming. A good example in Melos itself was the already cited settlement of Samari in the west part of the island, while further evidence was forthcoming in Paros and in Naxos.[2] Since then exploration has been supplemented by excavation, and Mr. Tsountas at Pyrgos in Paros has found remains of a small open settlement of the same period and character as those referred to above.[3]

[1] See *B.S.A.* iv. 22; also *ib.* iii. 13. [2] See *B.S.A.* iv. 22, 23.

[3] Ἐφ. Ἀρχ. 1898, 170.

In the history of early settlements, however, it will generally be found that defence in the way of fortification is always resorted to whenever the need for it comes to be felt. Thus at the primitive stage unprotected settlements give place gradually to fortified towns and cities, not as a rule *vice-versâ*, as is the case under changed conditions in our modern world. From this point of view it is instructive to find that Mr. Tsountas has discovered at Chalandriane in Syros a fortified town, of the same general age, as the First, unfortified, City at Phylakopi in the period represented by the earlier house-remains and floor-deposits. At Hagios Andreas in south-east Siphnos the same explorer has discovered another fortified settlement which marks a further stage of development and is of later date. The fortified settlement in Syros, the one in Siphnos, and the fortified Second City at Phylakopi exemplify stages in the history of Aegean fortification. We are, however, not as yet able to fill up the gap in development between the open settlements and the fortified towns, for we have seen that contemporarily with the open First City at Phylakopi we have a town in Syros with a style of fortification of so advanced a character that it in turn must have had a long history.

In the present state of the evidence it is hard to think that such a style of fortification can have originated in the Aegean itself, and we must ask whether at this early period it was not the mainland that furnished the prototypes for such strong walls as those of Syros and Siphnos. Impulse from that quarter would explain the fact that the Syros fortification is of more primitive character and of earlier date than that of more distant Siphnos, and that the Siphnos fortifications are in turn only a preparation for the greater security of the citadel of Melos. That is to say, if there was mainland impulse it extended gradually into the Aegean and reached as far as Melos. In that case, however, it did not go further, for the Minoan cities of Crete, so far as at present known, remained unfortified throughout their history. The fortification of cities is contingent upon circumstances of greater or less necessity, and we have the true course of development under differing circumstances illustrated for us in the fact that mainland Mycenae, Tiryns and Troy are fortified citadels, and that Aegean Cnossos, in complete contrast, is an open city with unfortified palace.[1]

That the fortifications in Syros, in Siphnos and in Melos show close analogies and represent stages in development is made clear by one feature: the outside breast-work which is common to all three of them.[2]

The one in Syros has opposite the tower γ an outside doorway with strong doorjambs, indicating a solid door shutting out and commanded only

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[1] On the other hand Furtwängler's excavations have brought out the fact that Minyan Orchomenos was an unfortified city.

[2] Ἐφ. Ἀρχ. 1899, 118; external to the towers α—ε on the sketch, in a similar position in Siphnos, *ib.* 127 and in A 5, B. C. D. 5–6 at Phylakopi. The analogy between the breastworks of Syros and Siphnos and that of Phylakopi has been already pointed out by Mr. Tsountas, *ib.* 134, note 1. Like these the outwork at Phylakopi was a regular wall with two faces.

from within. The doorway is protected by the tower, which also commands the exposed approach left from the doorway into the citadel through the tower β. The fortress in Siphnos has an outside entrance γ, and a passage towards an inside door through the citadel wall some distance to the left, which is dominated by the ramparts and is only a variant of the Syros arrangement.

In Melos we have a further stage in development. The relation of the external to the internal system of defence is rendered more compact and organic, with the result that the work of defence itself is rendered capable of greater concentration than was possible with the more simple arrangement of Syros and Siphnos. Thus the stair and bastion in D 5–6 have to be put into relation with the remains of the breastwork in line with them further west in B 6, A 6, A 5. The bastion formed part of a postern, with entrance south and west from its east end by way of 19, 18, into the citadel through the doorway α and the passage 13, and on to the ramparts by the stairway 16: or *vice versâ* from the interior of the citadel through the passage and doorway out at the postern, or, by way of the stair, on to the ramparts. In the later era of the Third City apparently the postern was blocked up and the system became a mere bastion with communication between citadel and rampart.

If these breastworks are examined in relation to their essential features, it will be apparent that they are all examples of a carefully guarded, round-about means of approach from without to within the fortified settlement. They thus all of them contain the rudiments, under changing conditions, of the developed entrance ramp of which the classical example is that leading up to the palace of Tiryns.[1]

There is every indication that the art of fortification had been learned on the mainland of Greece long before there was much need felt for its use in the Aegean. Yet by the time of which we speak—the early era of the Second City in Melos—the lesson had been fully learned. Nothing more, however, requires to be taken for granted than an assimilation to native needs of a system of defence that, however foreign to the islands in its original form, had at any rate by this time become as native in its Aegean character as the lustreless black design of the pottery of this period, although the medium itself for this design, as has been suggested, may have been originally a mainland product. The fortification of the new town is found adapted to a plan of houses and an arrangement of these in blocks separated by narrow drained streets that are thoroughly Aegean in character. The closest analogy for these house-plans and street-arrangements is to be found in Crete.

Some general considerations have here again to be kept in view. Alterations in the general plan of the fortifications and of the town taken as an organic unity are likely to have been of less frequent occurrence than

[1] The outer wall does not exist where the precipitous character of the environment makes its continuation unnecessary. So it was at Tiryns and so it probably was on the original sea-front at Phylakopi. Cf. Tsountas, *loc. cit.*, 129.

changes affecting the plan of individual houses within that town. Thus we may be fairly certain that the fortifications and the arrangement of the town, taken as a whole, belong to the original plan and to the earliest period of the Second City. In the history of the Second City we are not able to get back to a period when that settlement was unfortified. No part of the town can be made out to be older than the strong-wall.

On the other hand, as regards individual houses of the town there is no evidence so definite as would enable us to assign any of them to this earliest period. It is usually impossible to gauge the evidence as to how often a house on a certain site may have been remodelled or rebuilt in the course of the habitation by one kin of that site. And there is a further complication of possible data. Both kin and site may be changed, the kin may survive and the site change or the site may remain with new house and new kin. Just as the data assignable to reconstruction get lost so the deposit gets dispersed. There are no floor-deposits that can be definitely assigned to the earliest period of the Second City.

With dispersed and waste deposit again we have now a difficulty that was absent in the case of the corresponding deposit of the First City. In that case it will be recollected that of deposit-finds referable to the earliest period a class of potsherds was found in the test-pit in J 1, partially coincident with and super-imposed upon the earliest class of ware in that pit, which again was found to be identical with the pottery of the earliest Cycladic tombs. Similar pottery was, however, found elsewhere next the rock all over the site. On the other hand, none of this fragmentary pottery could be brought down to such a date as would make it contemporary with the pottery found on the earliest house floors of the First City, and none of it was found on such floors. We thus had to refer it to the intervening era, the earliest period of the First City, and to deposit that had already got dispersed before the period to which the earliest floor-deposits were assignable. On the other hand again, except in the region of J 1, there was no waste deposit on the site that was earlier than this.

With the earliest period of the Second City it is different. The earliest stray deposit of this period does not, as was the case with that of the First City, rest upon the virgin soil but as a rule on the débris of the whole First City. Thus there is no part of the site on which the earliest stray deposit of the Second City may not be coincident with the latest débris and waste deposit of the First. How are we to separate the data? Fortunately in the transition from one settlement to the other the general fact of continuity in development is more apparent than any clearly definable distinction in the character of the deposit, such as would answer to the break in architectural continuity. Thus, while we may not be able to separate what belongs to the latest deposit of the First City from what belongs to the earliest deposit of the Second, we can arrive at sufficient certainty regarding what is earlier as a whole than the earliest floor-deposits of the Second City.

As indicative of continuity in development the following facts have to be observed. While none of the pottery Pl. **IV–IX** is found to be charac-

teristic of deposit of the Second City, on the other hand the ware Pl. **X–XIII** is traditional. That is to say, some of it, as has been already instanced, was found to belong to floor-deposit of the latest period of the First City, and some of the types, as we shall see, can with equal certainty be regarded as surviving into the Second City.

The most remarkable instances of such survival are the types of bowl **XXXIII**, 1, 2 and 3–8. The earliest examples of these were found in floor-deposit belonging to the latest period of the First City. Yet the manufacture of these bowls is continued into the early era of the Second City, and with a gradual modification of form is carried on into the mature Second and early Third period. It was during this period that the evolution occurred which differentiated the higher and deeper forms 10–20 out of the flatter early forms 1–9. Again, cups of the type **XI**, 9–11 occurred in the same sort of context as the above bowls in floor-deposit, also belonging to the latest period of the First City. They also, however, can be shown to have survived throughout the early era of the Second City, for they still occur in floor-deposit of this settlement, belonging to the same period at which imported polychrome ware from Crete begins to appear. Thus, in the transition period marking the end of the First City and the beginning of the Second, there is no break in ceramic evolution corresponding to the break in architectural development. Here also we have one of the certain proofs of fundamental continuity of race between the people of the First and those of the Second City.

2. With the appearance of polychrome ware imported from Crete we arrive at an important land-mark in the history of the Second City.

In the early period of the Second City the geometric style inherited from the previous era still continued in its prime. On the other hand the first attempts at curvilinear design already noticeable in the closing period of the First City had in the early era of the Second City begun to develop into the elements of a curvilinear style. In the era which is marked by the appearance in Melos of imported polychrome ware from Crete, the tendency is completed in the formation of a curvilinear style in lustreless dark design on a light clay-slip ground, which now appears as characteristic for the Melos of that period, as the polychrome style with light design on a dark ground does in contemporary Crete. In this process of transformation the permanent elements of geometric design came to be incorporated as architectonic functions, alongside of other elements of a purely ornamental character that survive with a long lease of sporadic life down to the latest Aegean Age.

We have already seen that the Melians themselves, under the stimulus of import from Crete, had been tending towards the creation of a style with light design on a dark ground alongside of the style with dark design on a light ground. But the lack-lustre effect of the lustrous glaze-medium, as ground, on the porous Melian clay, and intrinsic hindrances towards the reception of the polychrome elements of design presented by the Melian substitutes for the lustrous Cretan glazes, effectively retarded and arrested

the development of this style. Thus the true Melian style of this period contemporary with that of Minoan Crete is lustreless dark design on a light ground. The other style is subordinate and it never becomes polychrome.

It was perhaps fortunate for the course of native ceramic development in Melos that its dominant style at this period should have been in direct antithesis to the favourite style of contemporary Crete. It thus became possible for the Melians to adapt to native usage such elements in Cretan style as were independent of the polychrome principle itself and were common to the monochrome with the polychrome style. The tendency towards architectonic schemes of design, characteristic of Melian ceramics of this period, and forming one of the features it has in common with the Middle Minoan ware of Crete, was probably stimulated by that intercourse with Crete to which the imported Minoan ware itself bears such striking witness.

The best specimens of this ware found at Phylakopi are grouped together on pages 149—150, Figs. 126–133. It is noticeable that several of the most favourite Cretan types of vase occur. Thus, for example, the two-handled spouted jugs Figs. 126, 129, the 'Vaphio' shape of cup Fig. 130, and the modern tea-cup shape Fig. 132.[1]

As the result of comparison it is possible to arrive at a fairly accurate conclusion as to the sort of Melian pottery that comes into the same general context, though it does not actually require to belong to the same deposit, as this Minoan ware. Thus the Melian cups figured Pl. **XVI** have an undeniable affinity with the Minoan ones, *J.H.S.* 1903, Plates V. and VI. Yet the later and derivative character of the Melian types receives countenance from the fact that the imported Minoan ware as a whole belonged to much earlier deposit.

Very characteristic specimens of the Cretan polychrome ware with light design on a dark ground were found in floor-deposit of a typical house of this period of the Second City in the north part of the town at H 1: 1–13 and room 6, with the vase **XIV**, 6 A, the fragments **XIV** 9, and four cups like **XI**, 9–11. Thus the Cretan polychrome ware appears in early floor-deposit of the Second City at a time when geometric ware is still current though the transition to curvilinear design is in process of being accomplished. Cups like **XI**, 9–11 were contemporary in Melos with the elegant shapes from Crete of which we have specimens on pp. 149–50, Figs. 130 and 132, but they had already long gone out of use by the time the Melians themselves were able to produce such handsome types as those grouped together on Pl. **XVI**. The Cretan polychrome ware probably began to be imported in the early period preceding that for which we have the evidence of floor-deposits and its occurrence attains a maximum in the middle period of the Second Settlement. On the other hand the Melian cups and the allied ware found in the same floor-deposits with them belong to the late or third period of the Second Settlement.

To this mature era belong the typical pillar-houses in G 3, and

[1] See *J.H.S.* 1903, p. 171.

neither in these houses nor in any others where floor-deposits could be assigned to the same advanced period did any fine polychrome Cretan ware occur.

The intimate character of the intercourse between Melos and Crete at this period is amply vouched for by the occurrence in the earlier floor-deposits of the Second City of the polychrome Cretan ware to which reference has been made. This intercourse, however, is only an index of the scale of Cretan trade-relations with the Aegean as a whole. It was not different at this time with wider fields of enterprise across the Libyan Sea as far as the African coasts and Egypt. It is thus we have to account for the polychrome ware from Crete found in Egypt and assigned by Flinders Petrie in view of all the evidence to about 2500 B.C. To this provisional date we have accordingly to refer the prime of the Second City, and the earlier history of this settlement from the time of its foundation as a fortified town to the period for which we have the earliest evidence from floor-deposits must have taken up the greater part of the period 3000-2500 B.C.

3. The non-occurrence of Cretan polychrome ware in the floor-deposits of the last era of the Second City, to which reference has already been made, is in accordance with other indications that the pillar-houses of Phylakopi represent an advanced stage in the architectural history of the Second City.

For comparative data we have to go once more to Crete. Several examples of pillar-rooms like the Melian ones have been discovered at Cnossos both in the city and in the palace.[1] In East Crete again houses with pillar-rooms were excavated by Mr. Hogarth at Zakro in 1901,[2] and by Mr. Bosanquet at Palaikastro in 1902.[3]

All the Cnossian pillar-rooms belong in construction to the first great period of the palace: and the occurrence of such pillars on other Cretan sites goes to show that by this time they had become a regular fashion based probably upon a long previous history. The cumulative evidence from Crete is sufficient warrant for assigning the Melian pillar-houses to the same general era and to the same Aegean style of architecture. Other data are in accordance with this evidence. First of all the fresco with flying fish which apparently decorated the east pillar-room at Phylakopi is in a style so Minoan that it can at once be regarded as belonging to one general period with the grand fresco-design with fishes discovered at Cnossos in 1902.[4] The Melian fresco may indeed be the creation of a Cnossian artist working in Melos, if the panel was not actually imported from Crete, as suggested by Mr. Evans. To judge, however, from the occasional fragments of coloured stucco found in stray deposit of this and the succeeding era, there is sufficient evidence that, thanks to an impulse originally derived from Crete, decorative polychrome fresco-painting had already come to be practised as a

[1] See *B.S.A.* vi. Pl. v., Pl. vi. i, 3, 4, viii. Pl. i. B. 13, and the Melian ones, *ib.* 5 and 6; Pl. xiii. G 4–5; p. 33, Fig. 6.

[2] *Ib.* vii. 131.

[3] See *ib.* viii, 316, Pl. XX, room 29.

[4] See p. 70 and *B.S.A.* viii. 58–9.

native art in Melos at this period. Again, the kind of pottery characteristic of the period to which the pillar-houses belong is that illustrated on Pl. **XVI–XXI**, most of it from the floor-deposit of houses that, like those with the pillars, were submerged in the last era of the Second City. All of this pottery is in a genuinely native Melian style.

The Melian curvilinear style is now in its prime. We have to await the results of further comparative investigation based on excavation in order to ascertain how far the exceptional means of intercourse, secured to Melos by her obsidian trade, encouraged the export of Melian pottery to other settlements in the Aegean and the surrounding regions.

In Crete such excavation has already yielded positive results. Thus in the excavations at Cnossos in the season of 1903 typical Melian pottery of this era was discovered in deposit belonging to the earliest period of the palace. The ware in question was found in one of two great cists opened up underneath the pavement in a room to the south of the Throne-room.[1] The Melian pottery was found on a stratum containing along with other things a remarkable series of objects in porcelain including some votive figurines of women of exceptional artistic and religious importance. The Cnossian ware found in the same deposit was either plain or had usually simple band or spiral decoration, light on a dark or dark on a light ground. The Melian ware consisted of three very large beaked vases with birds thrice repeated in profile on the shoulder. These vases, in clay, slip, style of decoration and paint, were the exact counterpart of the bird-vases of Melos as figured **XXI**, 1, 5. The context in which the vases occurred showed that they were contemporary with the transitional style which prevailed at Cnossos at the time of the building of the palace, and of the laying of the pavements which led to the covering up of the cists in which they and their Cnossian companions were found. The Melian vases were otherwise, however, strangely out of harmony with their environment, and the curious novelty of their somewhat old-fashioned eccentricity of appearance in such surroundings was only kept in countenance by the quaint liveliness of the bird designs in the lustreless black of the Melian paint on the pale yellow clay. The bird-vases of Melos are a characteristic class for the period to which the pillar-houses at Phylakopi belong, and the environment in which the imported Melian vases of this class were found at Cnossos makes it clear that the pillar-houses of Melos are contemporary with those of Crete and with the first foundation of the Palace at Cnossos.

The presence of the Melian vases at Cnossos points to a time of peace and of friendly intercourse on a footing of mutual advantage between Melos and Crete. There is nothing to indicate any repressive influence on the part of the more powerful island, for the course of development and its cul-

[1] See *B.S.A.* vii. 27, the "Room of the Two Cists," and Pl. I. H 5-6. The cists in the plan of 1901 are in the floor, those of 1903 were found underlying the pavement and are of much earlier date. The contents of these cists will be described by Mr. Evans in the report of 1903.

mination in a period of internal prosperity at this time in Melos, as indicated by the remains, makes it clear that this self-centred development of the island, under the stimulus of friendly intercourse with the rest of the Aegean and with Crete, took its own independent course on a basis of native autonomy.

§ 5.—*The Third City.*

It is not possible with the data at our disposal to assign the causes of the catastrophe which led to the ruin of the Second City at Phylakopi. There is no doubt, however, that the catastrophe, whatever its nature, was some calamity which overtook the settlement as a whole and led to a momentary abandonment of the town by all its inhabitants. This is proved by the fact that the remains of the later or Third Town form a uniform stratum extending over the whole site above those of the submerged Second City. This thorough-going stratification cannot be explained out of any gradual process of rebuilding such as goes on during the history of a town, for in that case, as has been already pointed out in connection with the Second City, we should have not two settlements with thorough-going stratification of their deposit, but one settlement with earlier and later elements.

On the other hand the character of such deposit as can be assigned to the earliest elements of the Third City makes it apparent that the new city was not built by the hands of strangers. Rather all the evidence goes to show that it was the same people who, through whatever cause, had momentarily to evacuate their old stronghold, and who now with a return in the tide of fortune proceeded to repair the breaches and to rebuild the new town on the old lines.

Thus we must guard ourselves against supposing that in the Third City we shall find any break in continuity corresponding to the thorough-going stratification in deposit and wall. What we see once more is the old civilization in a new phase of its development.

1. The new settlement like the earlier ones is found to be made up of earlier and later elements of construction, earlier and later deposit. The character of certain deposits makes it clear that some of the constructions of this settlement had become submerged at an early period. Some of the evidence, happening thus to be from floor-deposit which could be easily isolated from earlier and later débris, was much more distinct than what was available in the case of the corresponding early eras of the First and Second Cities. The solidarity of coherence with previous development is apparent from the fact that characteristic finds belonging to the earliest deposit of the Third Town exhibit with differences an absolute continuity of evolution with the finds of the last period of the earlier settlement. Thus, for example, the vase with men carrying fishes, Pl. **XXII**, was found in G 2 : 18 on the well-defined clay floor of a small room belonging to an important early house of the Third City. The vessel, however, is genuine

Melian work, and in clay and technique, with differences in the way of certain advanced peculiarities of style due to the influence of the fresco-painter, it is identical with the ware of the previous period. Similarly, bird-vases of the same general class as those from Melos found at Cnossos, while already occurring in the latest floor-deposit of the Second City, are equally characteristic of the early Third Period. Typical examples of such vases were found in the floor-deposit of an important early house of the Third City in the south part of E F 3.[1]

Along with the evidence of continuity in development we have other indications that the intercourse with Crete was as intimate as in the old days of the previous period, if indeed the relations were not of a closer nature.

The most characteristic ware of this period is that figured on Pl. **XXIII** and **XXV**; this is more indicative of inspiration from Cretan models than any of the pottery of the previous period. Now in Crete for the close of the earlier period of the palace at Cnossos it happens that the most typical wares come into the same general class as some of the originals of 4 and 5.[2] The vases 4 and 5 themselves, however, were found on a floor in J 2 : 17 and some of the vases Pl. **XXIII.** 1–5 on an adjacent floor in J 3 : 2, in deposit belonging to a house of the same early period of the Third City as the house of the Fishermen Vase. The filler vase, **XXVII.** 5, with its polychrome reminiscences in red and matt black, comes into the same context, and was found in the floor-deposit of a house of this period at G 1 : 7.

With such vases as 4 and 5 above we come much closer to Cretan sources of inspiration, and indeed to the manner of the originals, than we have ever done in the previous period during the great influx of Minoan polychrome ware. The style of the polychrome ware involved difficulties of technique which as we have seen could never be successfully overcome by an artist limited to Melian clay and pigments. These difficulties were less serious in the case of monochrome models with dark design on a light ground such as were now being imported into Melos, at a time when the polychrome technique itself was rapidly falling into disuse in Crete.

In this great period of prosperity in Melos, all the most outstanding features in native development point to close intercourse and community of interest with Crete at a time when the Minoan rule of Crete was also at its prime. But nothing characteristic of this era in Melos points to any lack of initiative in adapting the products of Cretan industry to its own native needs. Rather what we observe is a high native-born talent of discriminative selectiveness, which absorbs what is in accordance with native habits of development and rejects what is unfitted for survival in native media. Thus a polychrome style like that of Crete never became really at home in Melos; yet, working with their own media in dark design on a light ground, the Melians were able to create a native style in ceramic art in which some of the best principles of the Cretan monochrome style, including even the

[1] For a detailed description of these vases, see pp. 118–120. [2] See *J.H.S.* 1903, 187.

traditions of the other style that had survived into this period, were incorporated. This is especially true of vases like those grouped together on Pl. **XXIII** and **XXIV**, and in their case as compared with their models it is difficult to decide whether to admire more the Cretan lustre and brilliancy of effect and distinction of style, or the Melian sober mellowness of tone and homely charm of contour.

Most of this pottery belongs to the transitional class of monochrome ware with details in white, reminiscent of the polychrome style, on lustrous brown-black glaze design on a buff ground, which in Crete immediately precedes the fully developed "Palace Style." Fragments of a fine example of this fabric of the jug type, with neck and handle like **XXVII**, 8, 9 had details in white on lustrous brown glaze design of an architectonic character on the shoulder on a warm buff polished slip in the manner so typical in Crete at the end of the first period of the palace at Cnossos. The vase to which the fragments belonged must have been an importation from Crete. It came entirely into the same category as the vases from Zakro in East Crete published in *J.H.S.* 1902, Pl. XII. 1–3. The fragments were found along with other characteristic pottery in floor-deposit belonging to an early house of the Third City at F 4 : 1–6.

That, however, in accordance with the evidence from Crete, fabrics with polychrome elements of design light on a dark ground still survived in traditional use down to this period, is shown by the occasional occurrence of Melian adaptations coming into the same general category as the vases with flower designs, Pl. **XXIII**. 1–7. Unpublished fragments of a vase with similar flower-design light on a lustreless dark ground, which again with its undulating contours appears dark on the light ground of the rest of the vase, have the stamens in red glaze, the petals in the pale buff of the clay slip 'reserved' in the dark ground. The large rosette-design of the pedestal-vase on page 138, Fig. 110, which was found in floor-deposit of the same period at F 2 : 12, has a similar polychrome effect, similarly produced, of light design on a dark ground.[1] This curious technical device survives at Cnossos into a later era. By means of it, indeed, as we shall see, light design on a dark ground becomes a regular element of design in the architectonic arrangement as well as in subordinate details of the Palace Style with dark design on a light ground.

2. There are, however, indications that the intercourse with Crete extended beyond the early period of the Third City to which are to be referred the above Cretan fabrics and the Melian adaptations for which they furnished the inspiration.

Very interesting in this connection is the vase fragment **XXXI**. 1. It is almost certainly from Crete and belongs to the class of ware which at Cnossos is characteristic of the second period of the palace and is called the grand Palace Style. Like so many Minoan vases of that time it exhibits in subordinate details a curious survival of the Minoan technique

[1] Compare also the cup on page 133, Fig. 107.

with light design on a dark ground. Thus the border field on the neck of this vase forms a dark lustrous glaze ground on which a system of rosettes is 'reserved' by means of the device already referred to. The lower part of the vase—below the marine design on the body of the vase, dark on a light ground—probably also had a dark-ground border with light design of a simpler character than that on the neck. The imported vase figured on page 146 has enough of its neck preserved to show that it also had a similar dark glaze ground with reserved ornament in a similar technique. The bands below on the same vase are also to be considered as light design on a dark ground. This synthetic application of both techniques, forms the classical expression of the grand Palace Style in Crete.[1] The vase figured on page 146 and the fragment **XXXI.** 1 from this point of view come absolutely into the same class as the amphora of the Palace Style illustrated in *J.H.S.*, p. 192, Fig. 10.[2]

The type of vase figured on page 146, with ornament so closely analogous to that of the amphora just cited, is extremely common at Cnossos also in stone, especially alabaster.[3] Though no stone example of this kind was found in Melos, stone vases coming under another category occurred in sufficient numbers to deserve special remark. The vases in question are in steatite and are described and illustrated on pp. 196–199.[4] Several similar vases had previously been found in Crete and an account of those has been given by Dr. Evans in 'Cretan Pictographs,' p. 123, Fig. 123. Since then, however, the excavations at Cnossos have yielded a rich harvest of stone vases, among them being vessels in steatite like the ones found at Phylakopi. The circumstances under which the vases of Cnossos were found were such as enabled us to come to a definite conclusion as to the period to which they belonged. They were found on the floors of the palace in deposit which belonged to the second period of the building, that inaugurated by the events which led indirectly to the closing of the cists in the Fourth Magazine and to other repairs within the palace. There is no doubt that the steatite vases found in Phylakopi are from Crete, and that thus they are additional evidence of continued trade-relations with Crete down to the end of the second period of the palace at Cnossos. The context in which these vases occurred at Phylakopi is in harmony with the ceramic and other evidence that this period of the Third City and the second period of the palace at Cnossos are contemporary with each other. They were found in the floor-deposit of a small but important self-contained house in the region J, K 3: 5–28. This house, like that at H 2: 14, on the floor of which was found the ivory ring described on page 193, is one of those that had apparently become submerged in some

[1] In the development of this synthetic style the influence of the fresco-painter must have been paramount. Indeed the principle of regular architectonic alternation of light on a dark and of dark on a light ground is so fundamental that from this time onward it forms the one basis of all true decorative wall-painting.

[2] See *ib.* 194.

[3] See *B.S.A.* vi. 41.

[4] See *B.S.A.* iv. 34.

partial catastrophe heralding the events which led to the building of the palace in H, J 1–2.

3. The results obtained in the region of the palace were in harmony with evidence, forthcoming elsewhere on the site, of a partial stratification of the deposit and constructions referable to the period covered by the Third City. Thus, to recapitulate, there could be no doubt of the following facts:—

(1) The constructions in J 2–3, in F 4, and in D, E, F 2–3, with floor-deposit containing pottery contemporary with that of the end of the first palace period at Cnossos, which was submerged and then covered up by superficial constructions above them, were themselves earlier than those constructions and had ceased to be inhabited before the later houses were built.

(2) Houses like that in J, K 3 in which were found the steatite vases, like that in H 2 : 14 in which was found the ivory ring, and the other house in G 3 which contained pottery of the Palace Style from Crete, had no later constructions above them, but they had their floors at a considerably deeper level than those of the palace and adjacent constructions. They were all of them anterior in construction to the palace, and judging from the character of the finds from them, they also must have ceased to be inhabited long before the late era to which the finds from the palace and similar superficial constructions belong.

(3) The palace, and the adjoining superficial constructions to the east of the palace and its court in J 2–3, and the constructions elsewhere on the site as in D, E 4 and D, E, F 2 3, which contained deposit of the same late character as the palace, belonged to a still later era than the constructions that we have cited under the headings (1) and (2).

We have now come to the final chapter in the story of the prehistoric capital of Melos. The most characteristic mark of this period is that during the course of it the native energy of the Melian people, still seen almost at its best in the era immediately preceding the building of the palace, now begins to show very distinct signs of decline. It is not possible to say positively that the process of decadence had already begun at the period of continued active commercial relations with Crete, which account among other things for the stone and earthenware vases of the Cretan Palace Style found at Phylakopi. Yet it is noticeable that these importations of the second palace period at Cnossos did not afford the same active stimulus to native adaptation as the importations of the late Second and early Third period. The actual process of decline may not have started so early as this middle period of the Third City, but we know with sufficient certainty that, by the time to which we must refer the deposit found on the floors of the palace and of other late habitations of this stratum, the process of decadence had been completed. On those floors the products of native industry, especially of the potter's art, which were so distinctive a feature of earlier deposits, are now conspicuous by their absence. The final state of matters could not be indicated more clearly than it has been

332 p. illus. 29 cm.

by Mr. Edgar, who reports that of the masses of pottery found in the palace-well, all of which is referable to the period of which we speak, no more than ten fragments could be identified as of native manufacture.[1]

It is now clear that the commercial transactions of Melos have in this respect become so onesidedly a mere matter of importation that there is no longer anything to answer to the old trade-relations on a footing of mutual advantage that apparently subsisted in the earlier days of friendly intercourse between Melos and Crete.

If we inquire into the probable immediate cause of this decline we shall not be far wrong if we attribute it to the decay of the obsidian industry which for ages must have been the chief source of prosperity in Melos. In a very important instance evidence has been forthcoming to prove the continued manufacture of weapons in this material on a large scale down to the early Mycenaean Age. Arrowheads in obsidian were found in the Shaft Graves of Mycenae. In the Fourth Grave indeed there were thirty-five in a heap,[2] and there were no arrowheads in metal. It is apparent then that, at the period to which is to be referred the deposit of the Fourth Shaft Grave at Mycenae, arrowheads and by inference other weapons in this material were manufactured on a scale which presupposes an extensive industry in obsidian even as late as this era. Now the Shaft Graves on internal evidence belong to the same general period as the earlier elements of the palace at Knossos and the earlier deposit of the Third City at Phylakopi. If then, as has been suggested, this obsidian was from Melos, the fact of itself throws an important light on the condition and extension of the Melian trade in obsidian at the period to which the Shaft Graves belong.

In the chamber-tombs at Mycenae again obsidian arrowheads are replaced by arrowheads in bronze, which by this time apparently begins to predominate in the manufacture of these warlike weapons.

The probable later history of the industry in Melos is quite in accordance with this evidence. The prehistoric capital of the island evidently attained the acme of its development and prosperity at a period contemporary with that of the Shaft Tombs. At that era accordingly, if the evidence from these tombs is cogent, the Melian trade in obsidian with the Greek mainland was still on an extensive scale. It could not have been otherwise with Crete, the rest of the Aegean, and the Anatolian coast-lands, including Troy.

The subsequent era—represented in the Beehive Tombs—saw the gradual substitution of bronze for obsidian even in the case of those weapons in the manufacture of which obsidian up till now had held its own. This process of substitution was sure to lead to the gradual decline of a settlement like Phylakopi, whose chief source of prosperity since time immemorial had been the precious unique possession of its great obsidian quarries and the exploitation of these in a gradually expanding trade in the Aegean and probably with other lands.

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[1] See p. 160.

[2] [This, the current statement, has Schliemann's authority; but see p. 223.—R.C.B.]

But there were also external causes which contributed towards hastening on the final catastrophe. We have seen that there is properly speaking no continuity of development noticeable in the character of the deposit and wall-remains of the late Third City in relation to earlier elements, corresponding to that which was noticed in the transition between the First and the Second Cities, and between the Second again and the early and middle Third. The highest phase of native architectural development is represented for us at Phylakopi in the construction of the town walls and of edifices belonging to the last period of the Second City, such as the pillar-houses in G 3. And this native character further asserts itself in certain improvements, such as the Minoan-looking drainage system, in the general arrangement of the town which is typical of the early Third City. But if we go into details and compare the most characteristic house of the Second City with the most important edifice of the Third, we find that between the two there is a disparity of character which cannot be explained out of any native course of evolution. The pillar-houses of the Second City are a genuine Aegean type of building, and this type receives its highest expression in the architectural arrangement of Cretan Palaces. The palace at Phylakopi on the other hand cannot be brought into any direct connection with such a style. In its general arrangement and in its hearth in the megaron it is not Aegean at all, but goes back to mainland prototypes, and these prototypes themselves receive their classical expression in the Palace of Tiryns, not in that of Cnossos.[1]

With other buildings it is to a certain extent different, for such of these as existed before the construction of the palace would naturally have preserved their old plan, even in cases in which they may have undergone repairs at this time. Such, again, as may have belonged to the later era were certain to have close analogies with earlier buildings, since we need not assume an entire change of population in the city with the change of dynasty in the royal house. Consultation of the plans will, indeed, reveal more than one example of constructions of the late Third City which are analogous in arrangement with earlier ones, if they do not even follow the lines and repeat the plans of earlier houses. Thus, for example, the houses with the pillar-rooms in G 3 have above them superficial constructions, apparently of the late Third period, with a plan and walls more or less coinciding with those of the earlier house. The perpetuation of the main lines of a plan in this way is, however, partly to be accounted for by the fact that later builders often take advantage of the existence of earlier constructions as foundations for their own walls. For this reason equal

[1] Thus Mr. J. L. Myres *J.H.S.* 1900, 149 is right in regarding the Mycenaean house of the Tirynthian type as not being the old native house of the Aegean. The Aegean house, on the other hand, is, he says, of the same type as the later ideal 'Hellenic House.' Mr. Myres, however, commits an anachronism in adducing the houses of Goulas in Crete as a case in point on the Aegean side. These are themselves Hellenic houses of the seventh to sixth century B.C., but they are probably a survival of the Aegean type all the same. See *B.S.A.* ii, 183, figs. 8, 9, and Map, Pl. v.

attention has to be drawn to instances of late houses that reproduce early types independently of close conformity of plan.

With the palace it is entirely another question. Not only does this building ignore the existence of almost all constructions underlying it, but it also in characteristic features contradicts, as has been said, the Aegean idea of a megaron as preserved for us in such typical examples in Crete. The Cretan megaron has a special arrangement for lighting in the form of a light-well at the back, which is absent at Phylakopi as at Tiryns, and it has no hearth in the middle of the megaron such as is present both at Tiryns and at Phylakopi. The presence of the light-well and the absence of the central hearth are universal in Crete, and the light-well at the back of the megaron is as conspicuous a feature in the palaces of Phaestos and of Hagia Triada as it is at Cnossos.[1]

Again, the imported pottery found on the palace floors and on the floors of the superficial Mycenaean buildings elsewhere on the site falls absolutely outside the category of such importations of pottery as at a previous period, by way of stimulus and inspiration, performed so important a function in the development of native Melian ceramic art. It is all of it decadent Mycenaean of the latest class, and at the period to which it belongs was probably as readily manufactured in the Argolid and in the rest of Greece as in Crete itself. It was never produced in Melos any more than the megaron at Phylakopi was the work of Aegean architects. Both the megaron and the pottery found in it were the creation of strangers, and it is as easy to account for the coincidence of a mainland type of megaron with the kind of decadent pottery found in it as it is to account for the same coincidence at Tiryns and Mycenae in their latter days.

The inevitable conclusion then, to which we are driven by all the evidence, is that in the closing era of the Third Settlement at Phylakopi, while the bulk of the population remained the same as at an earlier period, the people who built the palace were of an alien race. Whence these people came it may be possible to conjecture as a consequence of what has been said regarding the affinities of the megaron of Phylakopi. When we have pointed out that this megaron has the closest analogies with mainland types like that of Tiryns, we have virtually said that the latest rulers at Phylakopi were a mainland people, and that these formed part of a general wave of immigration into the Aegean of part of the native population of Greece, consequent on the incursion into their homes of new tribes from the north.

That this thrusting into the Aegean region of such sections of the late Mycenaean coast-communities as were unable or unwilling to come to terms with the new comers, or were simply ejected from their homes, was part of a general migratory movement, is proved by the fact that the same phenomenon is observable in Crete. One of the causes which contributed towards the break-up of the Minoan civilization in Crete was undoubtedly invasion from

[1] See *B.S.A.* viii, figs. 29, 30, and *Mon. Ant. Linc.* xii, Tav. ii, 69; and for H. Triada *ib.* xiii.

the mainland. And it was the same invasion from the mainland that submerged the earlier native civilization at Phylakopi, and that effectively arrested the course of genuine native evolution on the old lines in Minoan Crete. Thus the last 'Mycenaean' people at Cnossos, those who destroyed the palace and then reoccupied parts of its ruins, like those who built the palace at Phylakopi, appear as strangers unacquainted with native institutions and forms of life, and they arrived too late in the Aegean to give the Minoan civilization any new lease of life on the old lines. By fusion with the earlier native Minoan population and with the Dorian new-comers of a later time they undoubtedly entered as an element into post-Minoan development, but that is another question and does not concern us here.

The external relation of these alien people to Minoan institutions and art is apparent from the one fact that, with a decadent pottery of the latest Mycenaean class, they exhibit a total ignorance of the letters and higher culture of the previous age. Thus in no deposit which was recognized as belonging to this period of partial habitation at Cnossos was a single inscribed tablet or seal, broken or unbroken, ever found during the whole course of the excavations there. The same is true of the latest Mycenaean deposits and wall remains of Phaestos and is shown most strikingly in the lack of all native style characteristic of the late and ugly constructions that have covered up and concealed the beautiful Minoan arrangement of porticos, light-wells and windows, staircases, halls and megara in the palace discovered by the Italians at Hagia Triada.[1]

This complex of phenomena, so utterly in discord with the character of previous development in Crete and in the Aegean generally, is completely in harmony with all the evidence that excavation has yielded regarding the latest Mycenaean inhabitants of Tiryns and Mycenae.

The earlier Cretan relations to the Aegean as a whole were of an entirely different character. For, as we have seen, the native course of development in Melos, and by inference in the Cyclades generally, formed a parallel and interconnected movement alongside that of Crete. And there is no reason to believe that the Minoan Sea-power and the culture that it represented ever came to exercise an arresting influence on the course of this development in any part of the Aegean: for in the crucial instance Melos, under inspiration that is largely to be traced to Crete, we find the native course of evolution taking a special way of its own that is only consistent with a certain amount of internal independence, such as is natural to island communities.

[1] The palace at H. Triada, taken as a whole, is identical in style and contemporary with the later palace at Phaestos, and both are typically Minoan in character. The later palace at Phaestos, like that of Cnossos, has underlying it the remains of an earlier palace equally Cretan and Minoan in character, but exhibiting the Minoan style of palace architecture in an earlier phase of its development. At Phaestos, these earlier remains are comparatively well-preserved and are in course of exploration by the Italians. At Cnossos a large part of the corresponding constructions has disappeared in the process of levelling away that preceded the laying of the foundations of the later palace. See *Rendiconti Linc* xii. 317 351, 352-362 and figs. 1-4; *B.S.A.* viii. 1, 23, 117; *J.H.S.* xx. 168, 170, 179.

All the evidence then encourages us to conceive the Minoan Sea-power as a sort of Aegean League, that in the earlier phases of its history may have grown by successive acts of forced absorption into the sphere of influence of the League, but was ultimately established, as was inevitable in the case of island societies, through the sanction of voluntary incorporation, on friendly lines of mutual advantage based on internal autonomy. Of this Aegean League the finds now indicate that Melos must have been one of the most important members outside of Crete.

We have also seen that the Aegean civilization, after a long course of development, reached its prime in Crete in the great days of the palaces at Cnossos and at Phaestos, and in Melos in the period of the late Second and early and middle Third Cities at Phylakopi. Thus, if we can take Melos as typical of the probable course of development in other islands, the trend of that civilization was towards one great period of prosperity which in greater or less degree was a uniform phenomenon all over the Aegean region. But the tendency towards decadence rested upon inner causes which equally had their operative effect upon the civilization as a whole. Besides these, however, as we have seen reason to conjecture, there were external causes contributory to the general process of decline which are not to be sought in any one part of the Aegean itself at all, but on the mainland of Greece. The final catastrophe when it came was one which submerged the Minoan civilization of Crete equally with that of Melos, and the final dissolution of the Aegean League and of the hegemony of Minoan Crete was one event with the break-up of the Aegean civilization as a whole.

DUNCAN MACKENZIE.

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NOTE.—Geom. = Geometric; Myc. = Mycenaean (*i.e.* 'of the Mycenaean period'). References to the antiquities of Egypt are collected under the heading Egyptian Evidence. References to the antiquities of Crete will be found under the various sites and also under Crete.

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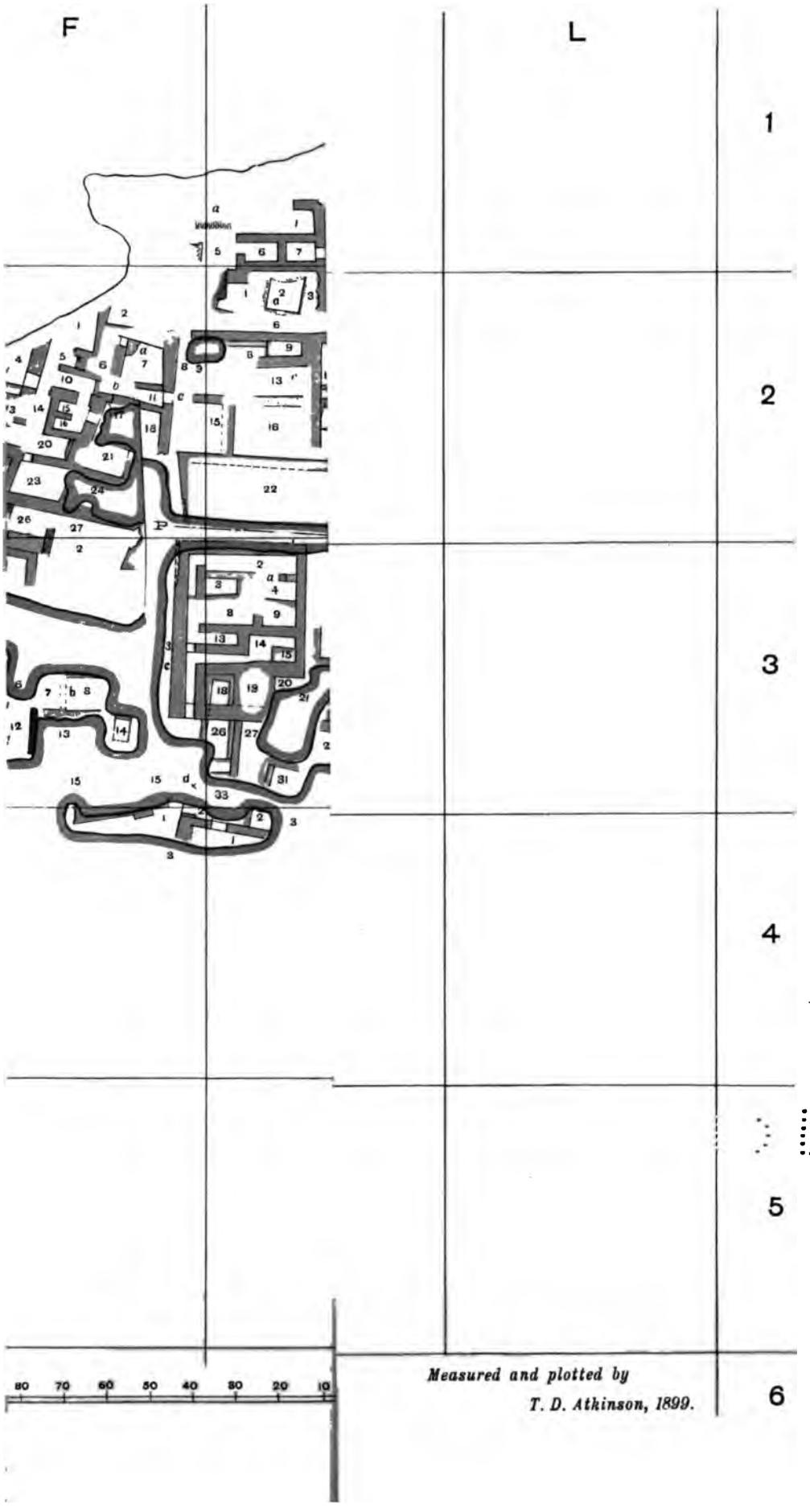
ADDENDA.

P. 192, § 4, l. 4. The three smaller discs weigh respectively 1530, 470 and 190 grammes.

P. 247, l. 11 from bottom. *For* 'likewise found in early Dynastic tombs' *read* 'of early Dynastic type.'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DARK-FACED POTTERY WITH INCISED PATTERNS.

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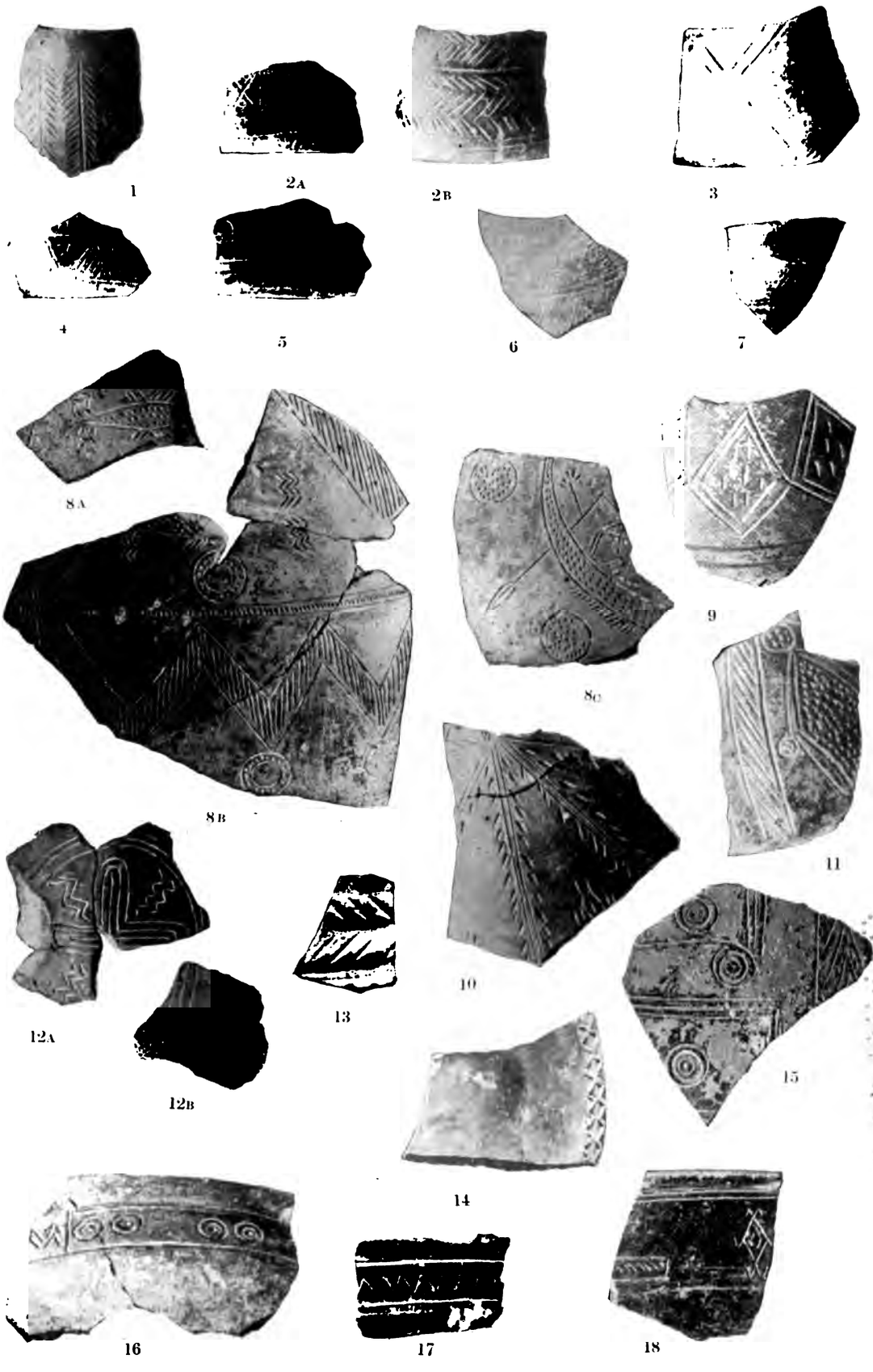

PYXIDES, DUCK VASES, &c.

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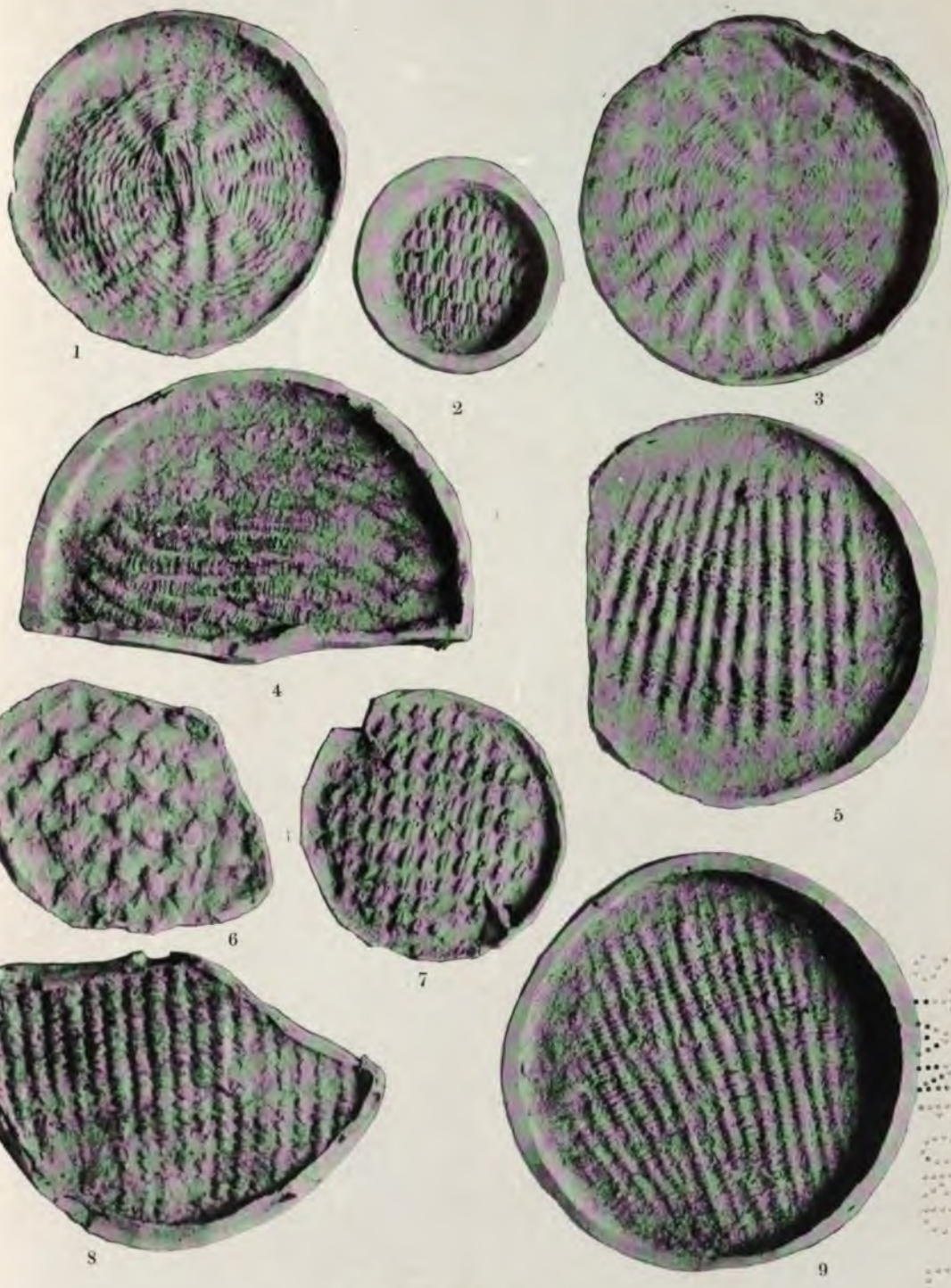

MAT-IMPRESSIONS.

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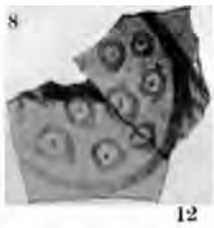

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POTTERY WITH GEOMETRIC DESIGNS IN MORE OR LESS LUSTROUS PAINT (§ 6).

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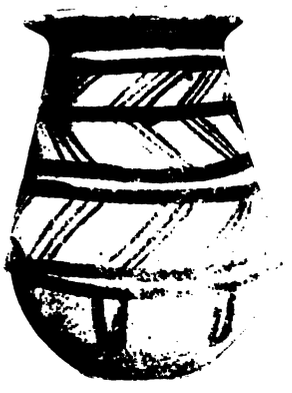
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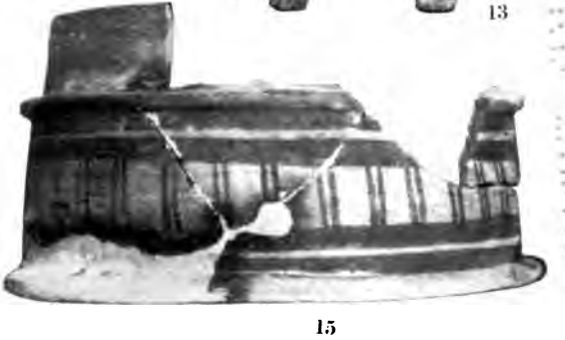
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GEOMETRIC POTTERY (§ 6).

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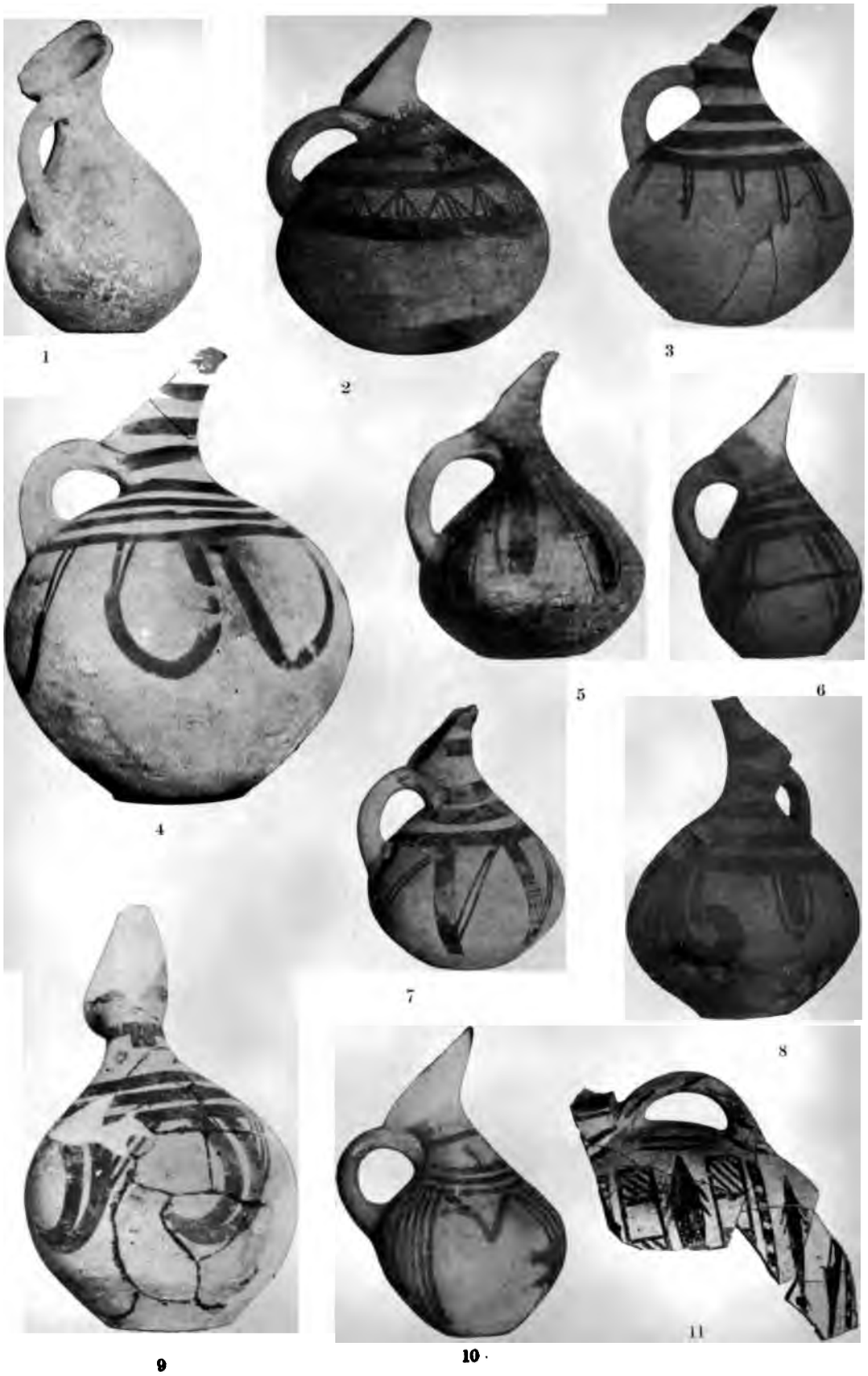

GEOMETRIC BEAKED JUGS (§ 6).

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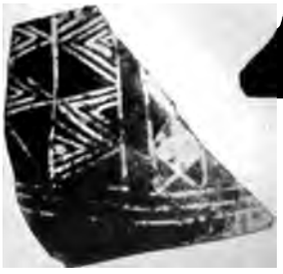
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GEOMETRIC POTTERY (§ 6).

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GEOMETRIC VASES WITH WHITE SLIP AND MATT BLACK PAINT (§ 7).

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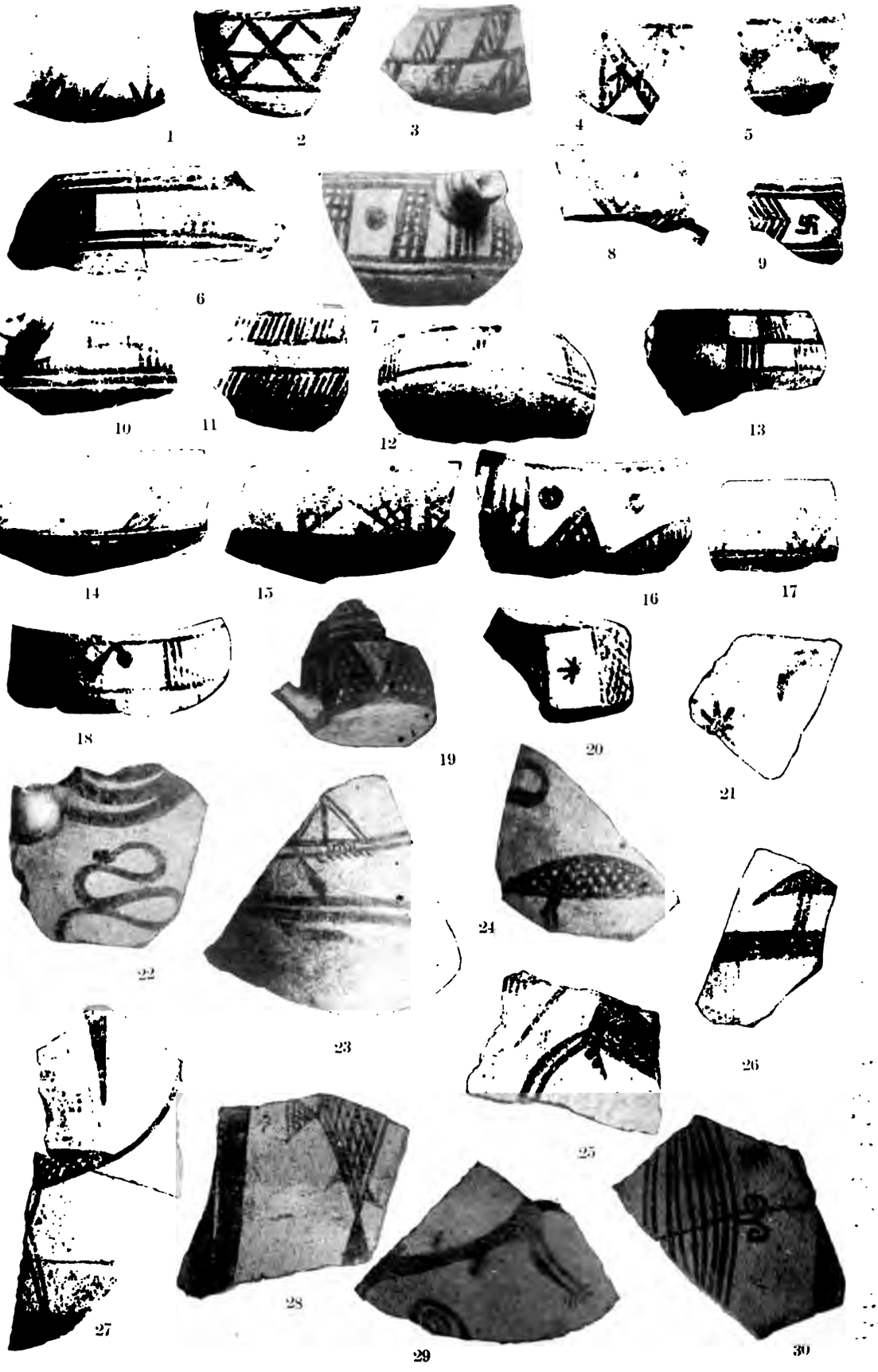

GEOMETRIC FRAGMENTS WITH WHITE SLIP AND MATT BLACK DESIGNS (§ 7).

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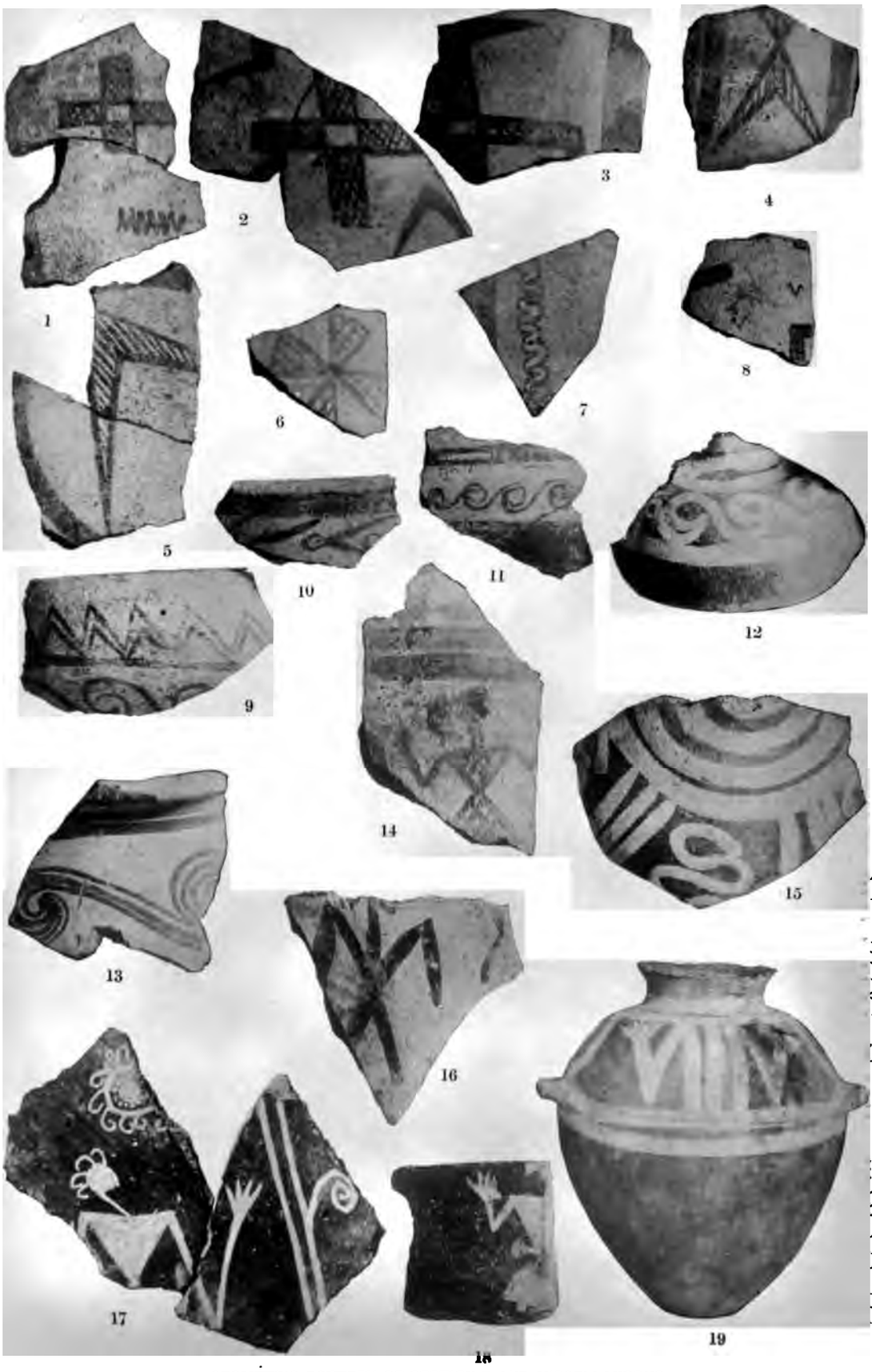

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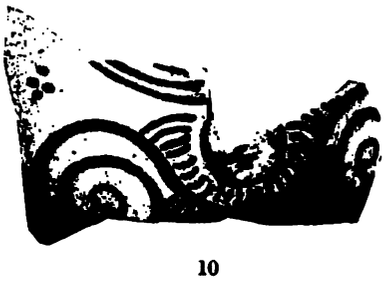
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MYCENAEAN BEAKED JUGS, &c. (§ 8).

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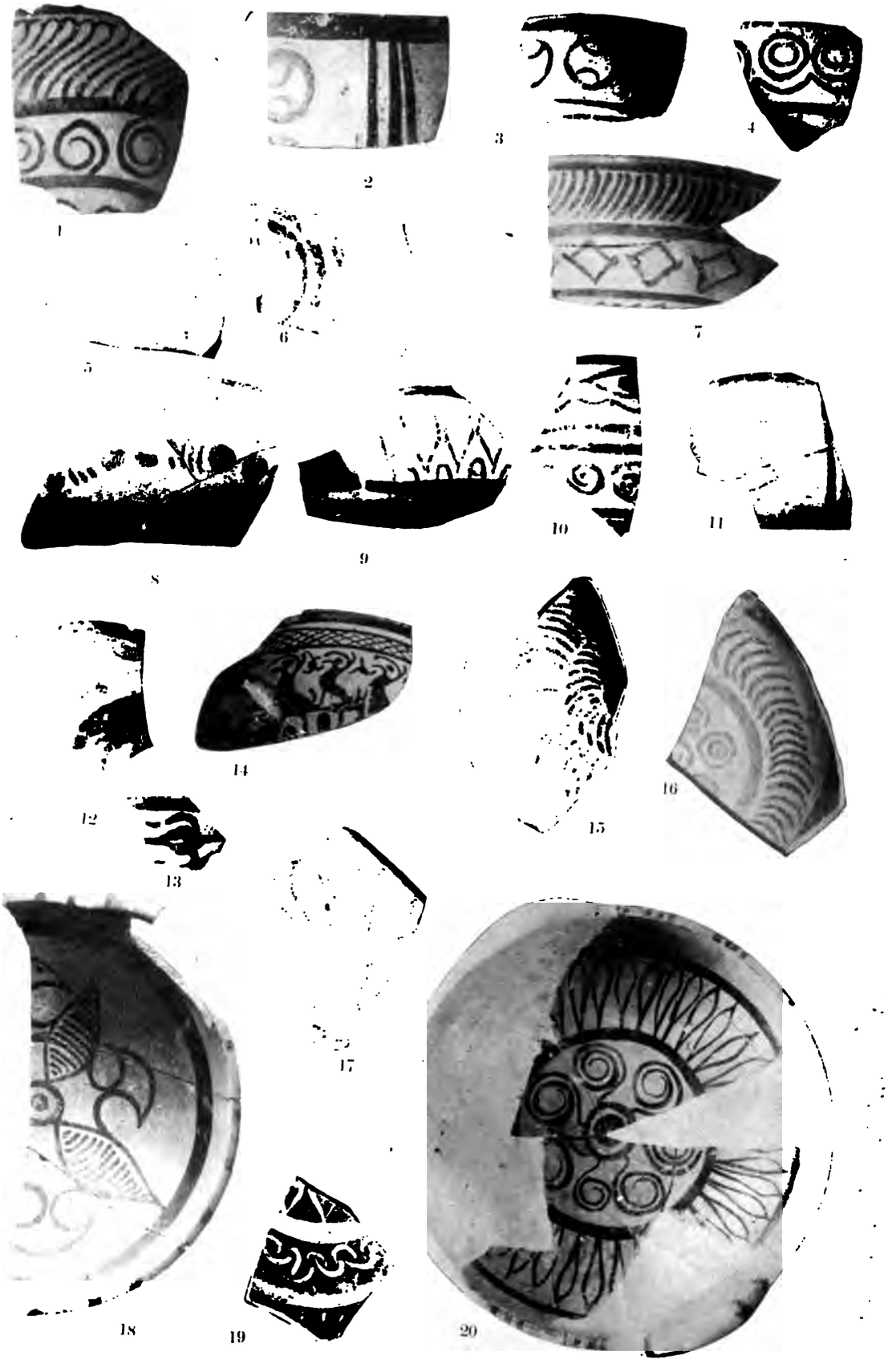

EARLY MYCENAEAN SHALLOW CUPS AND BOWLS (§ 9).

EARLY MYCENAEAN PANELLED AND FLAT CUPS (⅓ 9).

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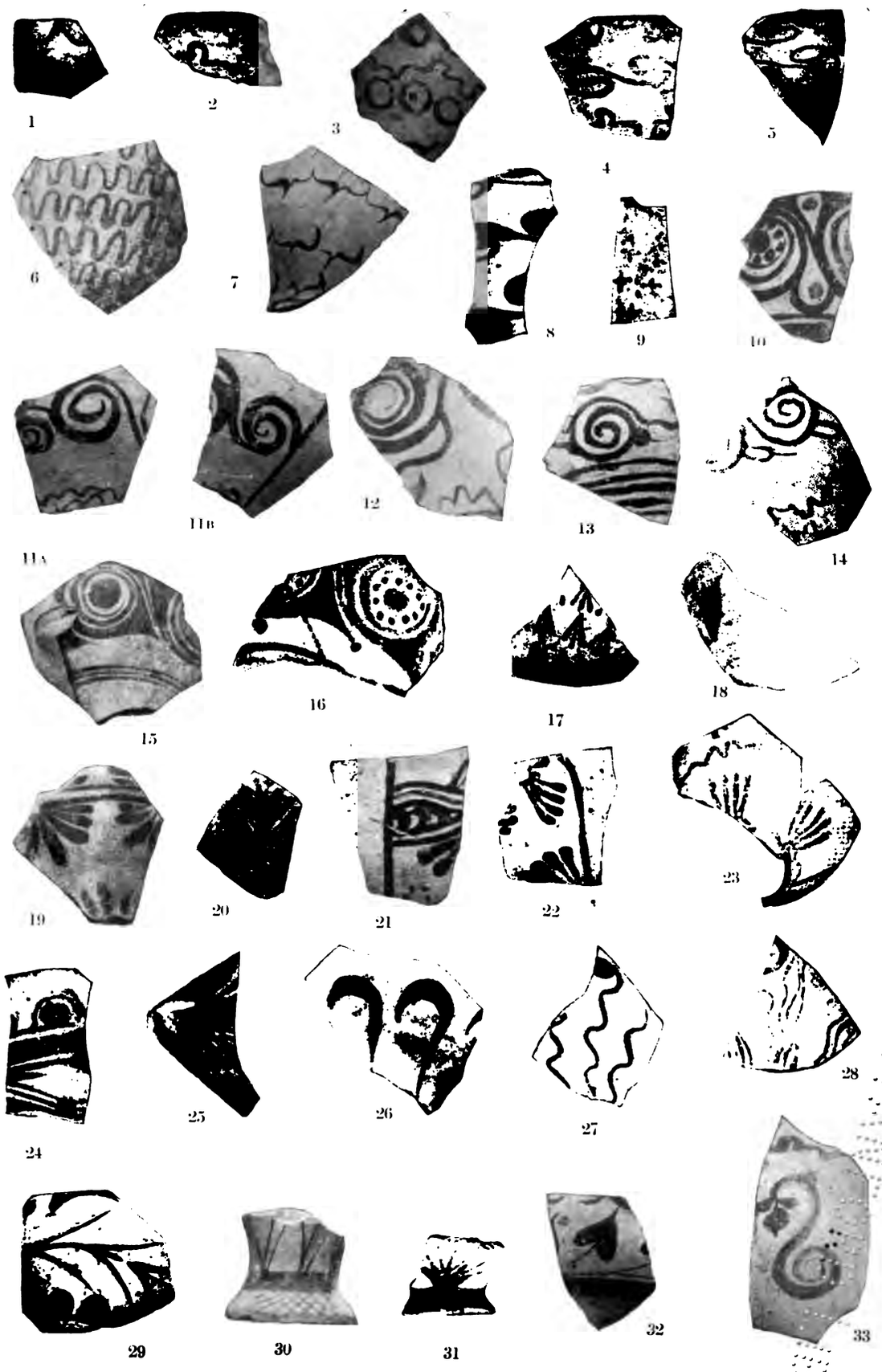

EARLY MYCENAEAN PANELLED CUPS.

Scale about 1:2.

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VARIOUS EARLY MYCENAEAN VASES (§ 9).

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VARIOUS EARLY MYCENAEAN VASES (§ 9).

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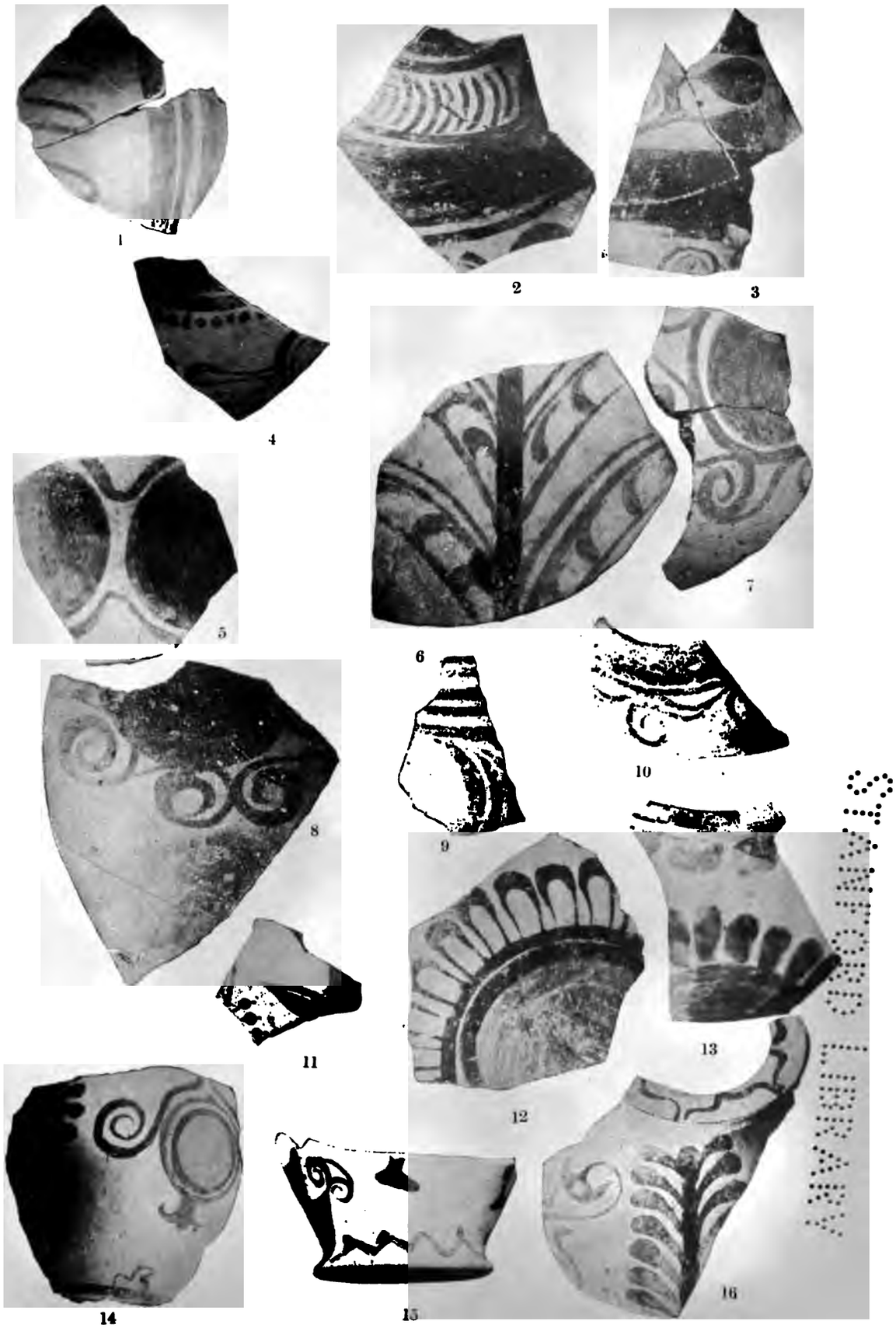

"BLACK AND RED" EARLY MYCENAEAN WARE (§ 10).

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"BLACK AND RED" EARLY MYCENAEAN WARE (§ 10).

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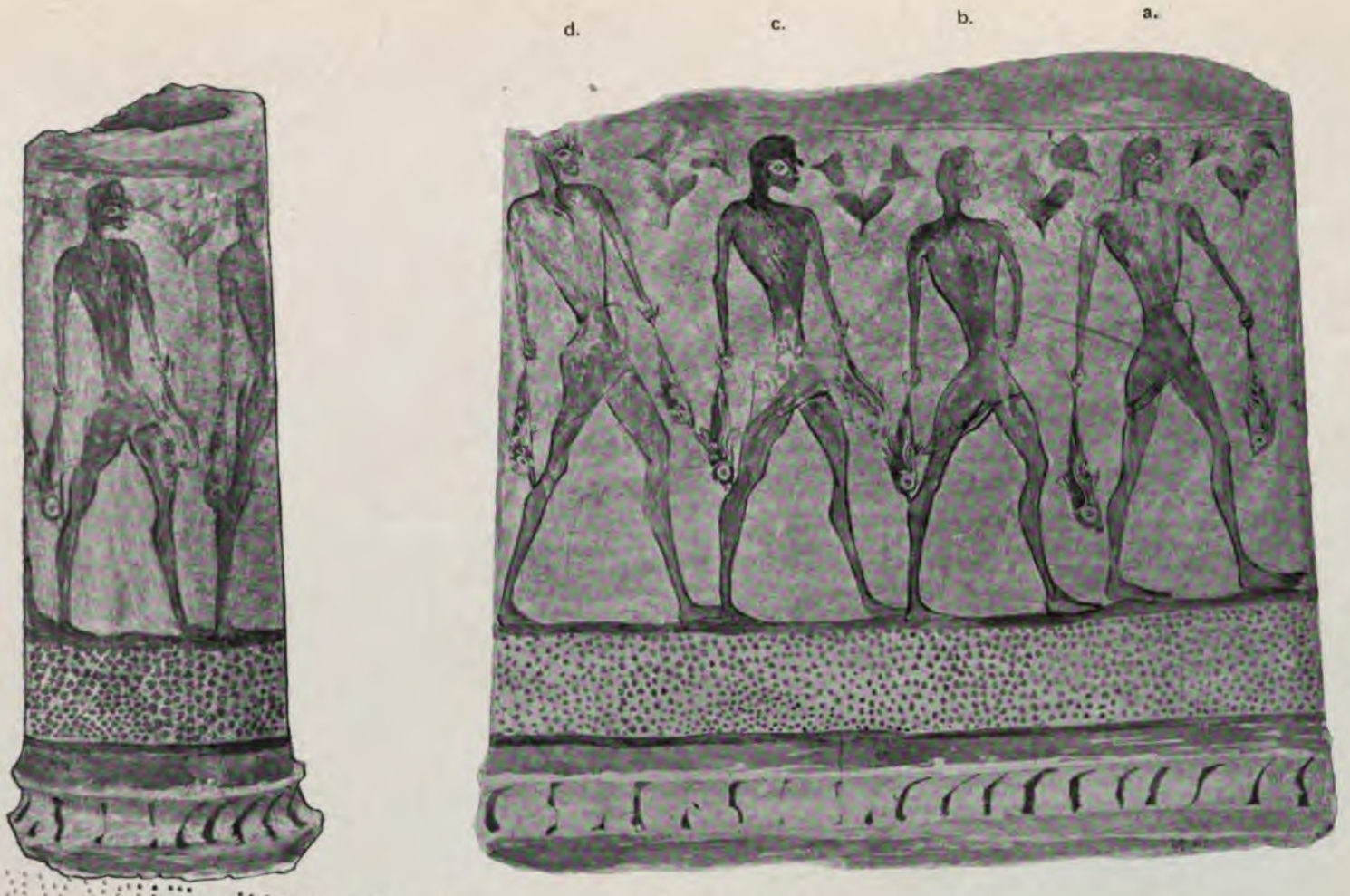

THE FISHERMEN LAMP-STAND (§ 11).

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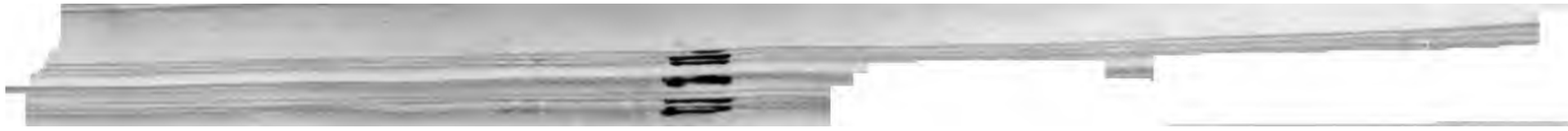

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VASES WITH FLOWERS IN BLACK AND RED (§ 12).

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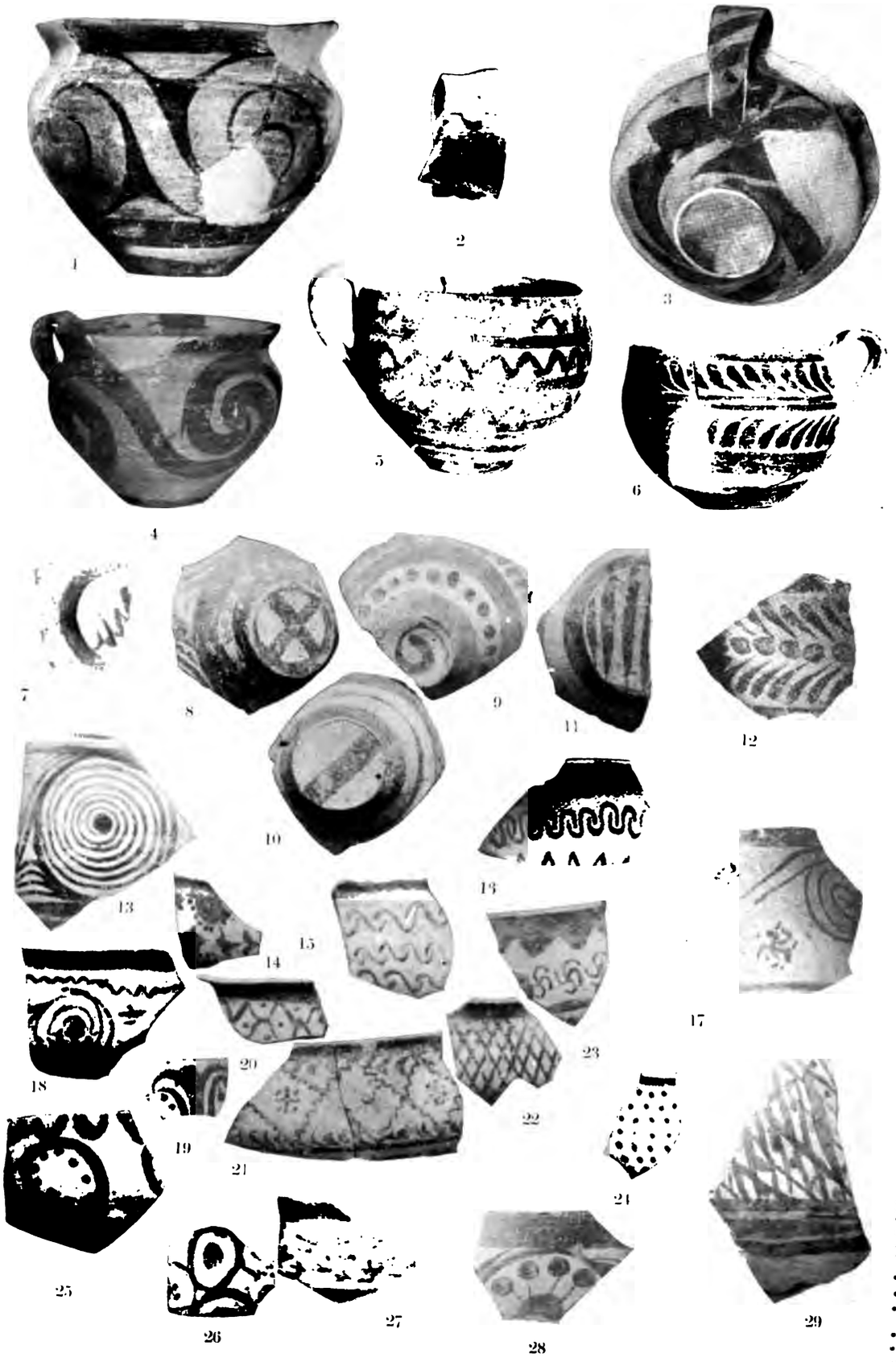

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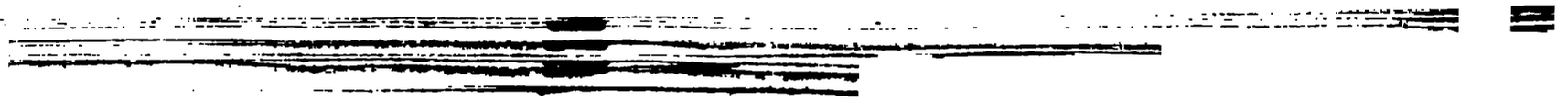

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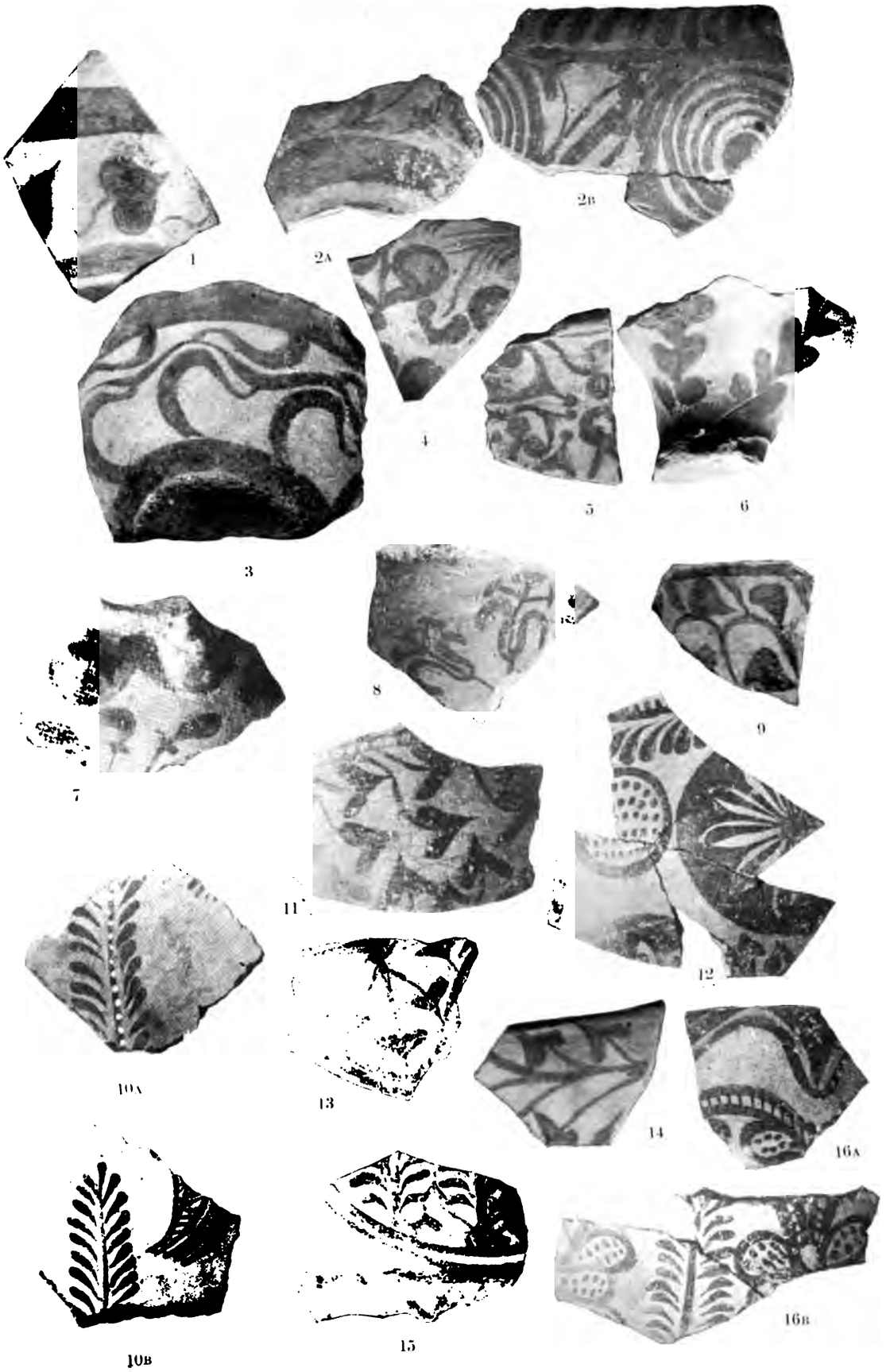

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LATER LOCAL MYCENAEAN POTTERY (§ 13).

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BATHS AND BASINS (§ 14).

IMPORTED MYCENAEAN POTTERY (§ 16).

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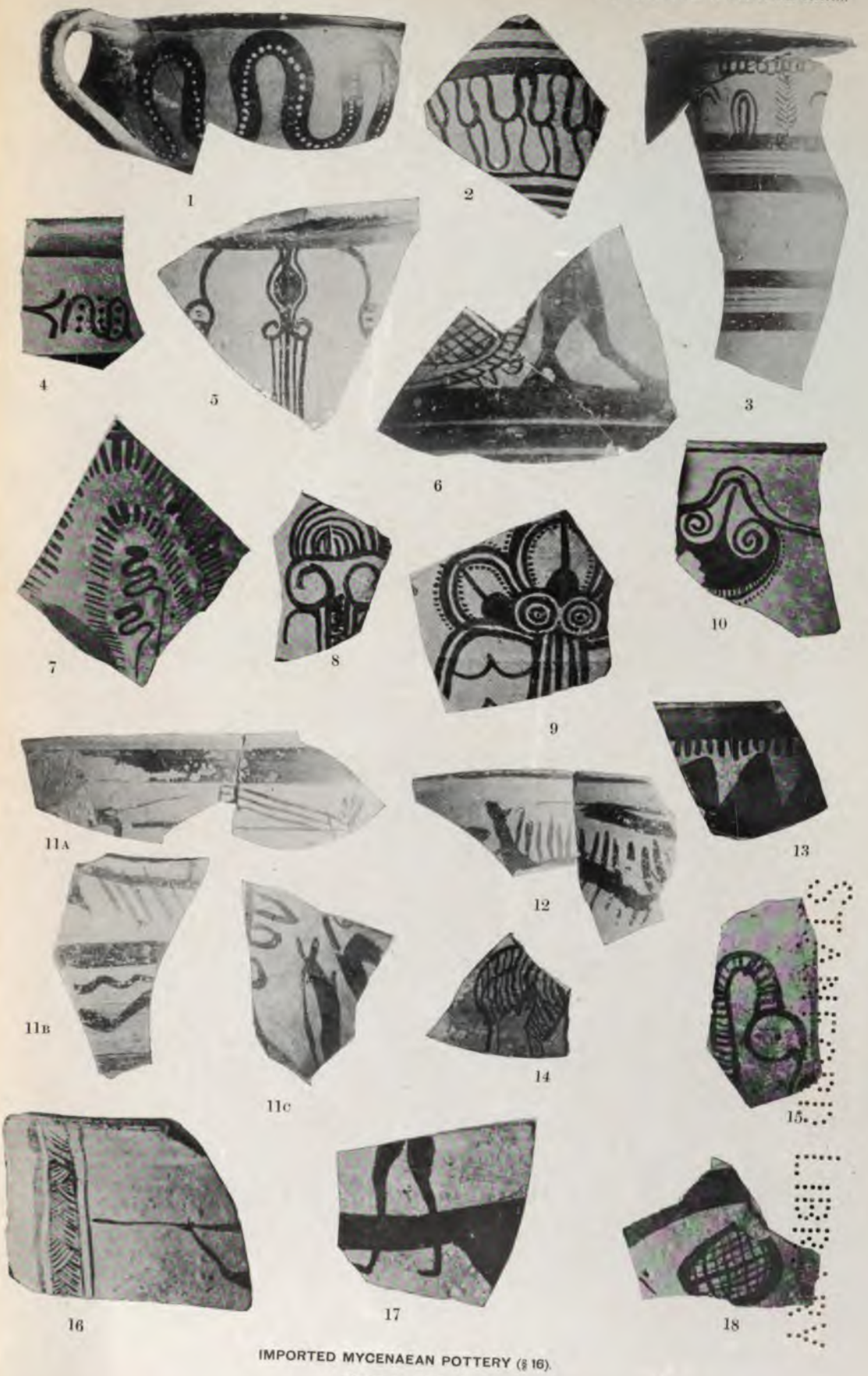

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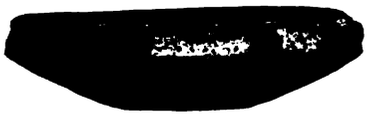

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FLAT BOWLS WITH SPOUTS (§ 15).

Scale about 1:4, but not quite uniform.

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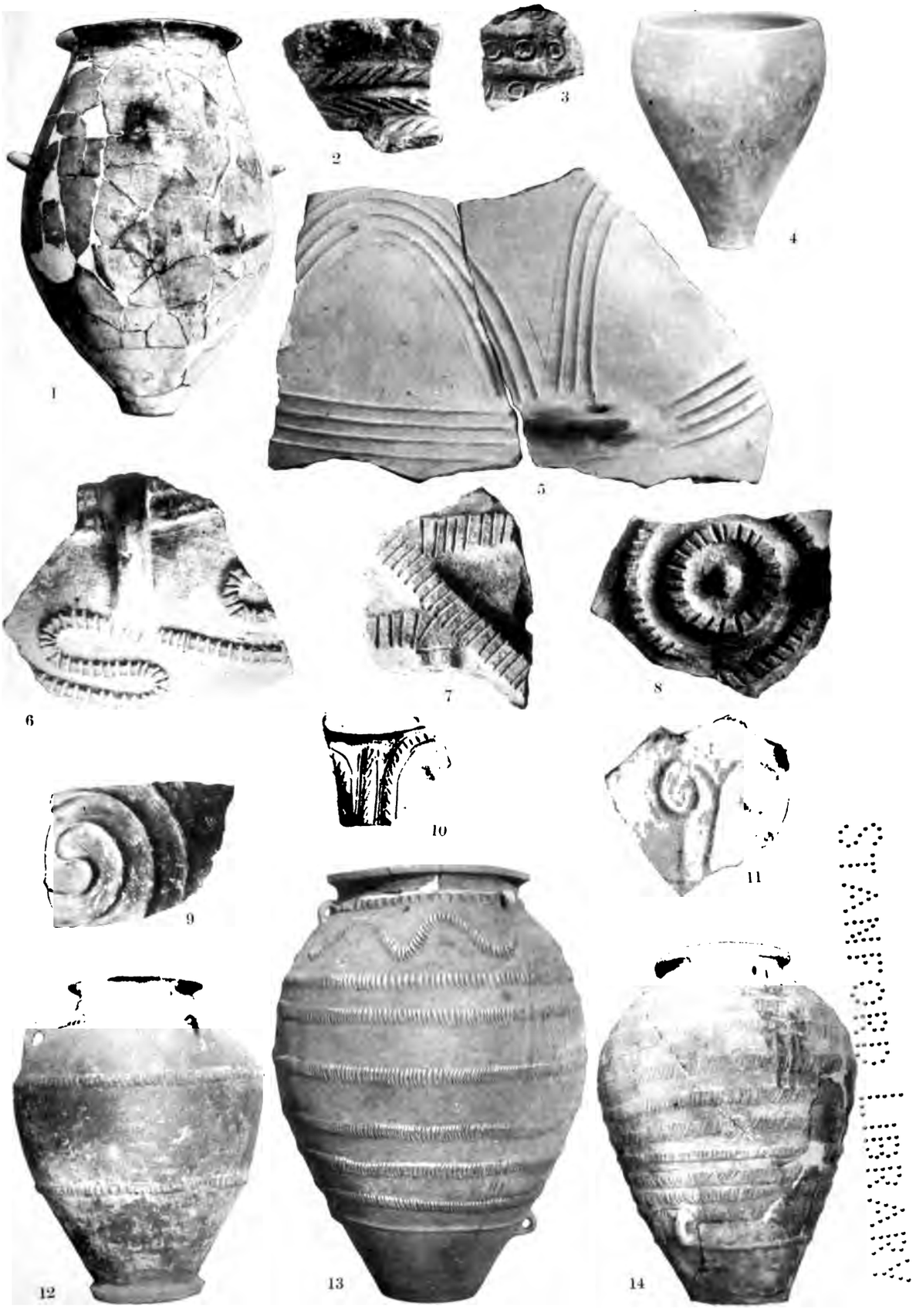

PITHOI.

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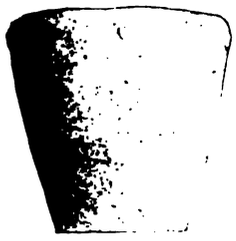

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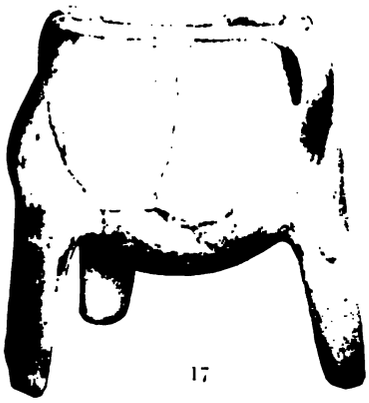

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MISCELLANEOUS POTTERY.

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LATER UNORNAMENTED WARE.

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BRONZE STATUETTE.

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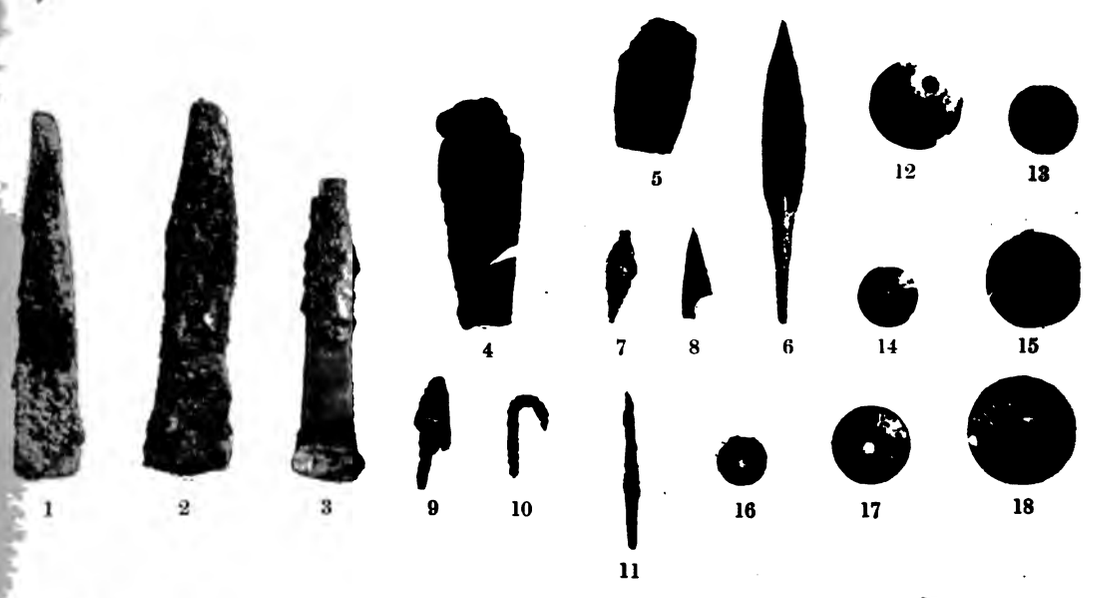

MISCELLANEOUS MINOR ANTIQUITIES.

Scale 4:11.

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MISCELLANEOUS MINOR ANTIQUITIES.

Scale 4 : 11.

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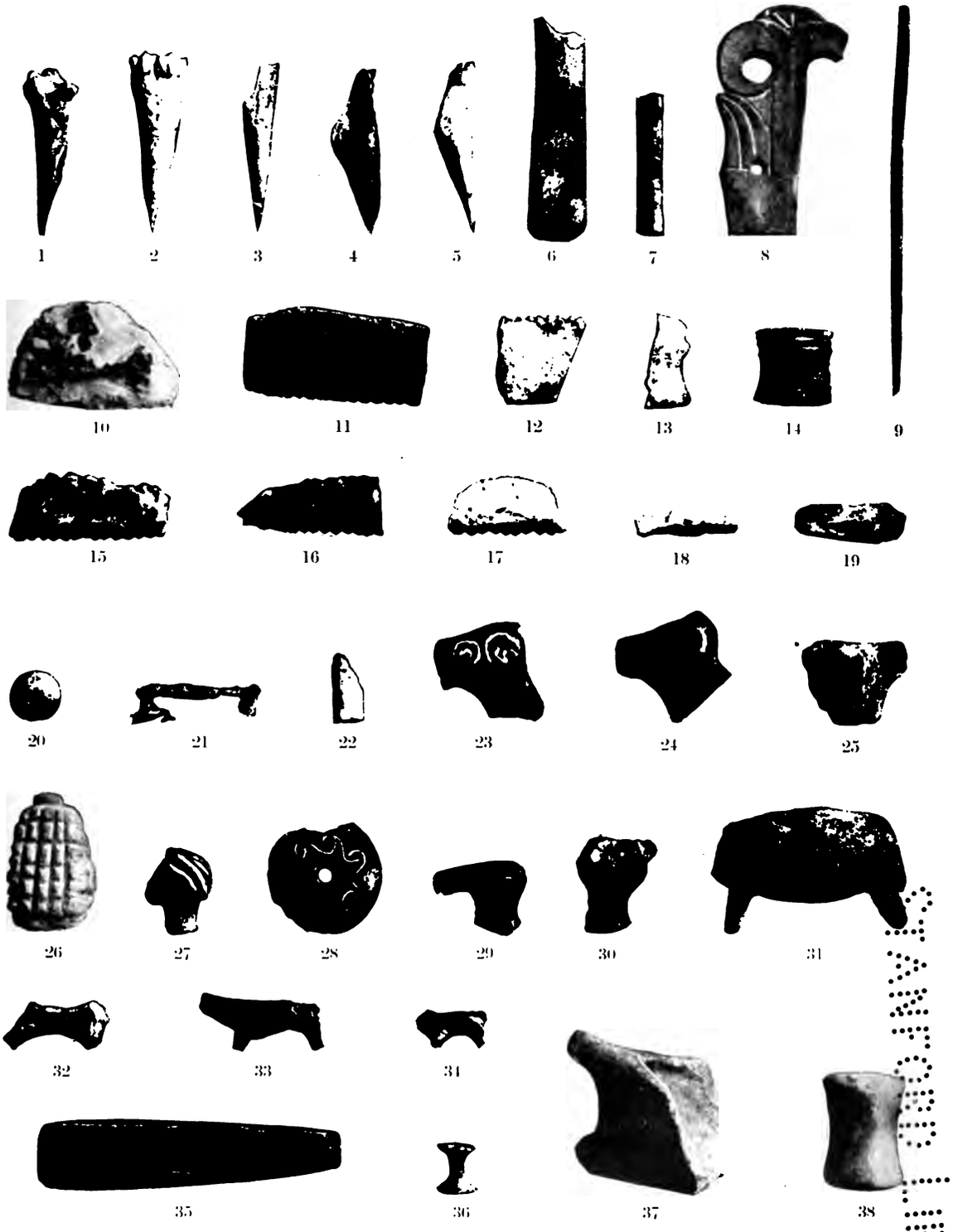

MISCELLANEOUS MINOR ANTIQUITIES.

Scale 4 : 11.

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LAMPS OF STONE AND EARTHENWARE

Scale about 1:3.

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